

AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT NO. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, EDITOR.

SATURDAY, MAY 3, 1834.

VOLUME III.—No. 17.

CONTENTS :

Pennsylvania Canals and Railroads ; On the Construction of Diving Bells ; On the Location of Railroad Curvatures ; &c.	page 259
Experiments made on the Forth and Clyde Canal to ascertain the best form of Canal Boats.	259
Ithaca and Owego Railroad ; On the Currents of the Ocean.	260
The Enjoyment of Reading ; Meteorological Record.	261
G. B. Palmer's Gold Washing Machine.	262
Agriculture, &c.	263
Literary Notices.	266
Summary.	269
Advertisements, &c.	271

AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, MAY 3, 1834.

To CORRESPONDENTS.—P. G. V. will please accept our thanks for his monthly statement of the weather. In reply to his query in his communication of the 6th April, containing the table for March, we would observe that we have received a report for every month, except December, 1833. With regard to the *irregularity* of the receipt of the Journal, and other New-York papers, referred to in the annexed extract, we can only say that the *fault* and "neglect" are not with us. Our papers are carefully and regularly mailed.

"I received yesterday, by mail, papers from New-York (say only) dated from 24th January, 1834, to March 15, 1834, inclusive, all in original envelopes, and in good order. Intermediate numbers I have received in part before, *but not all yet*. How is it possible that such neglects should or ought to occur.

"Avoyelle Ferry, La., April 6th, 1834."

We also acknowledge our indebtedness to V. D. G. for his frequent and valuable communications upon the subject of railroads ; F., upon internal improvements ; S. D., upon road-making, and other subjects. This communications are always acceptable, although sometimes delayed by other matter on hand.

We have received, and shall, at our earliest convenience, examine the first annual report of the Pittsburgh and Juniata Railroad Company. The President, H. Phillip, Esq., to whom we are indebted for it, will please accept our thanks.

SLOOP CANAL FROM THE HUDSON TO THE LAKES.—In the Assembly of New-York, on the 14th of April, Mr. O. Robinson, from a select committee to whom was referred the petitions

of numerous inhabitants of Oneida, Oswego, and other counties, for the exploration, survey and estimate of a sloop canal from the city of Utica to the village of Oswego, on Lake Ontario, made an interesting report, and concluded by introducing a bill to provide for the survey of a ship or steamboat canal from Albany to Oswego, and also to improve the outlets of the Onondaga, Cayuga and Seneca Lakes.

The bill provides for the survey of the route commencing at Albany, thence up the valley of the Mohawk to the Oneida Lake, and thence down the outlet of said Lake, and the Oswego river, to Oswego, on Lake Ontario, of sufficient capacity to admit vessels of 200 tons burthen, also, so to improve the outlets of the Onondaga, Cayuga and Seneca Lakes, as to admit vessels of like dimensions.

On motion of Mr. Humphrey, four times the usual number of this report were ordered to be printed.

PENNSYLVANIA CANALS AND RAILROADS.—The following paragraph from the Harrisburgh Reporter of Friday last, presents a gratifying picture :

The several lines of the Pennsylvania canal, are in excellent navigable order, and in full operation. The slight breach on the Juniata, which interrupted the navigation of that division for a few days, has been repaired. The Portage railroad is also in full operation, and immense quantities of produce and merchandise daily pass over it. The receipt of tolls on our public improvements since the commencement of the present financial year, have more than trebled the amount received during the same period of the last financial year ! The receipts of the treasury up to this time, the tolls in the hands of the collectors not paid in, and the probable receipts for the balance of this month, will amount to upwards of one hundred and ten thousand dollars ! During the corresponding period of the last financial years, the receipts were thirty-four thousand two hundred and thirty-eight dollars, showing an increase thus far, of upwards of seventy-five thousand dollars !!!

To the Editor of the Railroad Journal, &c.

SIR,—As I am a farmer, I have been so much occupied by my attention to planting trees, that I have really not had time to attend to my other business. The time for executing such business, in the spring especially, is so short, that it requires close attention to perform the work in season. I have now, however, got nearly through, so that you may rely on my communication being in readiness for your next number.

Your obedient servant, J. S.
Hoboken, April 23, 1834.

On the Construction of Diving Bells. By S. D. To the Editor of the Railroad Journal and Advocate of Internal Improvements.

SIR,—In the construction of the common diving-bell, an instrument now very extensively and importantly used, a complication of pulleys, barrels, and ropes, always liable to accident and interruption, is necessary to insure a supply of pure air to the person in the bell, and to remove the impure air constantly generating. It has struck me sometimes—although from its not having been already adopted, there probably exists some insuperable objection to the proposal, which I do not perceive—that a condensing syringe might be used with great advantage. This syringe might work into a small reservoir above water, from which the communication (a well-constructed hose would serve every purpose) would proceed to the bell ; this hose, it is evident, might be of any length, coiled even while in use on the deck of the lighter, which always accompanies the bell, and connecting by means of an opening in the top of the bell, to which might be attached a stop-cock, by which the person inside would always be enabled to govern the supply. For the removal of the impure air, a second set of hose should connect with a second stop-cock ; the upper mouth of this set would be in immediate communication with the atmosphere, while the condensing syringe above was supplying the bell with additional air, and thereby expelling from it additional water, the person inside would occasionally, at his discretion, open this second stop-cock, and allow a portion of the impure air to escape, which would be immediately replaced by pure air from the first set of hose, and thus a current of air might be created apparently more perfect, and attended with much less trouble than by the methods in present use. A sketch would more readily explain the simplicity of the mode ; but a sketch requires a wood cut, and while doubting whether the idea is not open to some peculiar objection, I have not troubled you with one.

Very respectfully, Sir, S. D.
Boston, April 21, 1834.

On the Location of Railroad Curvatures. By VAN DE GRAAFF. [For the American Railroad Journal, and Advocate of Internal Improvements.—Continued from p. 162.]

Although a system of rectangular lines, traced from given co-ordinate axes, will, in general, furnish the best data for computation, yet cases sometimes occur when those calculations have to be made either from computed curves, or curves actually laid upon the ground. In a first location this case will sometimes happen, when, from difficulties which are found in advance of a line, it becomes necessary to

change a part of that which was either already computed, or actually laid. Such a case will sometimes occur, even when the operations in the field have been skilfully conducted; and in laying curves upon a surface already *graded*, it will be frequently necessary to compute from curves actually traced. The principles contained in the four last articles have been given chiefly with this object in view. But with regard to the two last articles, (7 and 8,) it may be observed, that, *when the curves are long*, it becomes very important to have some method of obtaining the *position* of the line *w* from the extremity of either curve; for a knowledge of only the *length* of that line will, in such a case, be of very little use in the field, unless the direction is also known, in order that the termination of any *proposed* curve may be immediately *pointed out* by an instrument placed at the termination of a given curve. There is no difficulty in obtaining very convenient formulas for the object thus proposed; but for want of room in this journal, I must proceed to other things.

10. *Take a system of rectangular co-ordinate axes, having their origin at a given station in a tangent line, from which a certain required curve is to be laid, passing through a point designated by the co-ordinates x y ; the given tangent line coinciding with the axis of x : and let a system of rectangular lines be traced from the origin to the designated point, agreeably to the method proposed in article 4. It is then required to determine a method by means of which the instrument may be immediately directed into the true tangent at the designated point.*

Let the successive rectangular lines, as traced from the origin, be represented by a b c d , &c. It may then be observed that the safest method of recording the lines a b c d , &c., in the field, will be to take a blank form,

$\{x =$ $\}$, and then record each

line in its proper equation, and with its proper sign, immediately as their values are determined by measurement.

A matter of considerable importance in the field, after the rectangular lines a b c , &c. have been traced to any proposed point, is to be able to examine, by the direction of the instrument, what the direction of the curve would be passing from the origin through that given point. Indeed, in difficult situations, a curve cannot be *selected* without such a datum; and if the rectangular lines a b c , &c. were not sufficient to furnish that datum with facility, a curve would have to be actually laid upon the ground, in order to judge of its fitness, even if a point were known through which it would pass. It would evidently be not difficult to direct the instrument, when placed at the given point, into the true tangent there, if the inclination of that tangent to the primitive tangent at the origin were known. For the last rectangular line traced will, of course, be either parallel to the primitive tangent, or perpendicular to it; and, in either case, it furnishes the means of directing the instrument into a line parallel to the primitive tangent at the origin. It is then only necessary to deflect an angle equal to the inclination of those two tangents, when that inclination is known, and the direction of the curve at the given point may then be perceived at once, from the position of the instrument, without that delay which would be occasioned by actually tracing a curve upon the ground, which must ultimately be relaid. The result, therefore, is, that a formula must be investigated, expressing the inclination of the two tangents in terms of the given co-ordinates x y . Take D to denote the inclination required;

then $D = 2 n T$, and consequently, by art. 2,

$$\frac{\text{Sin. } D}{2 \sin. T}, \text{ and } y = \frac{1 - \text{Cos. } D}{2 \sin. T}.$$

Eliminating D from those two equations, the result is,

$$\text{Cot. } \frac{1}{2} D = \frac{x}{y}.$$

Such is the formula required, and its applications are very extensive in the field: for it will thus be seen at once, whether or not the given point can be maintained; and this fact should be always ascertained, and the most judicious line definitely *selected*, before any curve is actually traced.

11. It is frequently necessary that several points should be designated, through which a curve is required to pass by means of a change of curvature at each of those points. To show the method of operation which ought to be pursued under such circumstances, take a system of rectangular co-ordinate axes, coinciding with the primitive origin and tangent line. Trace, parallel to those axes, a system of rectangular lines, given by the equations

$$\begin{cases} x = a + b + c + \text{&c.} \\ y = d + e + f + \text{&c.} \end{cases}$$

and terminating at the *first designated point*. Let the instrument be then placed at that point, and directed into tangent agreeably to the method explained in the last article. Take this second tangent as the axis of x , for a new system of rectangular co-ordinate axes; and parallel to these new axes, trace a second system of rectangular lines, given by the equations

$$\begin{cases} x = a' + b' + c' + \text{&c.} \\ y = d' + e' + f' + \text{&c.} \end{cases}$$

and terminating at the *second designated point*. Let the instrument be now placed at this second point, and again directed into the proper tangent by the same means as before. Take this third tangent as the axis of x , for a third system of rectangular co-ordinate axes; and parallel to this second new system of axes, trace a third system of rectangular lines, given by the equations,

$$\begin{cases} x = a'' + b'' + c'' + \text{&c.} \\ y = d'' + e'' + f'' + \text{&c.} \end{cases}$$

and terminating at the *third designated point*. Continue this obvious order of proceeding, until equations

$$\begin{cases} x = \\ y = \end{cases}$$

have been obtained for *all the designated points*; and then by means of those equations, and article 4, compute all the moduli of curvatures. Returning now with the instrument to the primitive origin, let each curve be traced from its proper modulus of curvature, and the line will be found to pass through all the designated points. If proper care be observed in chaining the different systems of rectangular lines, by means of which the equations

$$\begin{cases} x = \\ y = \end{cases}$$

have been obtained, there can be no disappointment in the result; and, consequently, if the designated points have been judiciously selected, there will very seldom be a necessity of tracing the same part of a line the *second time*; and thus the method of co-ordinate axes, when skilfully conducted, will constitute one of the most important systems of operations connected with the location of railroad lines.

In tracing the various systems of rectangular lines through the different points which may be designated for a curve, there is a principle of practical convenience which must be mentioned. I mean the principle of designating such points for a change of curvature, as will cause each section of the whole curve, between the designated points, to be composed of an *integer number of chains*, when those curves come to be ultimately traced, after their respective moduli of curvatures have been as-

certained by the methods explained above. It is indeed necessary in every case, except where the road-way is perfectly horizontal, to know the *length* of each of those separate curves, in order to select the designated point correctly with respect to *grade*; and this datum must therefore always accompany the levels. When a system of those rectangular lines have been traced to any given point, and the resulting equations

$$\begin{cases} x = \\ y = \end{cases}$$

have been thus obtained, the distance from the origin to that given point, in a right line, will obviously be truly expressed by $\sqrt{x^2 + y^2}$; which is a formula rendered very convenient for use, by means of a table of the squares and square roots of numbers. And this quantity may be frequently taken as the length of the intervening curve, by which to compute what the *grade* would be at that given point, and will always furnish an easy method of obtaining the approximate distance necessary in making a selection for the *position of a line*, as far as the levels have an influence. The next object, then, must be finally to designate such a point as near the point fixed by the levels as a desirable curvature will permit, and which will produce a curve, from the origin, containing an *integer number of chains*. The preceding principles will furnish very simple means of obtaining the desired point; but I cannot here enter farther into such details.

12. *Let two curves be under consideration, having different origins, and tangent lines; and let one of those curves be given, from a system of rectangular lines or otherwise, and a point designated therein through which the other curve is required to pass. It is proposed to explain a method by means of which the modulus of curvature of the required curve may be computed.*

Take a system of rectangular co-ordinate axes, corresponding with the given origin and tangent line of each curve respectively, and let the co-ordinates of that point in the given curve which is designated for the required curve to meet, as taken with reference to the co-ordinate axes of the given curve, be x y ; the values of these co-ordinates being computed by article 2, if the given curve be already laid in the field, but determined by means of a system of rectangular lines, when that curve has not been actually laid. Let the co-ordinates of the *new origin*, taken with reference to the axes of x y , and determined either by computation, or by means of a system of rectangular lines, be denoted by α , β ; α being supposed to coincide with the axis of x . Take z to denote the given inclination of the tangents at the origins of the two curves.

It is sufficiently obvious that the required modulus of curvature will be immediately derived from article 4, when the co-ordinates x y , of the designated point, as taken with reference to the new origin and axes, becomes known. The formulas for those new co-ordinates are,

$$\text{Sin. } T' = \frac{y + \beta}{\sqrt{x^2 + y^2}} \cdot \text{Sin. } z + x + \alpha \cdot \text{Cos. } z$$

$$x' = y + \beta \cdot \text{Cos. } z - x + \alpha \cdot \text{Sin. } z$$

These are the well known expressions given by most authors for the transformation of rectangular co-ordinates, and they only here stand transposed in such a manner as will best suit the engineer's purpose in the present inquiry. By means of article 4, the above equations immediately produce the following formula, for the value of the new modulus of curvature T' :

$$\text{Sin. } T' = \frac{y + \beta}{\sqrt{x^2 + y^2}} \cdot \text{Cos. } z - x + \alpha \cdot \text{Sin. } z$$

The theorem thus obtained has a very good form for computation, and when skillfully applied, it will frequently save much labor in the field, which would be otherwise required, when certain alterations are proposed in a line, once computed, or actually traced. In the prac-

tical use of this theorem, particular attention must be paid to the algebraic sign of all the quantities; but this does not here require an explanation.

VAN DE GRAAFF.

Lexington, Ky., April, 1834.

Experiments made on the Forth and Clyde Canal, to ascertain the best form of Canal Boats. By J. ROBINSON, Esq., Secretary of the Royal Society of Edinburgh. [From the Transactions of the Society of Arts, Second Part for 1833.*]

In the way in which experiments to ascertain the forms of least resistance of floating bodies have generally been made, so costly an apparatus, and so much precision and skill in observation, have been required in order to give any value to the results, that comparatively few persons have been enabled to undertake such investigations, notwithstanding the obvious advantage to be derived by those interested in canal navigation, from an accurate knowledge of the forms most suitable for vessels, according to the circumstances under which they are to be employed.

The great increase of speed which has lately been effected in railway carriage having made it expedient that corresponding improvements should be introduced into the transport of goods on canals, it became the interest of canal proprietors to use active endeavors for this purpose. The directors of the Forth and Clyde canal have shown themselves particularly well disposed to encourage such investigations, and have applied a considerable portion of their revenue to the construction of experimental steam-vessels, and to the improvement of the facings of the canal, so as to admit of the transit of large vessels at rates of speed which, until lately, have been supposed impracticable in confined water.

In order to obtain a maximum of effect from the power employed in such steam-vessels, it was necessary to ascertain as nearly as possible the form which should be given to their bodies: and as much diversity of opinion existed on this point, I ventured to suggest to the directors that experiments should be made on the canal with models of a sufficient size to admit of safe conclusions being drawn from the results of the trials.

In consequence of this suggestion, four models were prepared, of the following dimensions:

No. 1 was 8 feet 3 inches long, 2 feet wide, and 1 foot deep.

No. 2 was 8 feet 3 inches long, 2 feet wide, and 1 foot 6 inches deep.

No. 3 was 8 feet 3 inches long, 2 feet wide, and 1 foot 6 inches deep.

No. 4 was 9 feet 1 inch each part, 1 foot wide, and 1 foot deep.

And the weight of each 187½ lbs.

No. 1 was quite flat on the floor, rounded at the bilges, and perpendicular in the sides at the midship section, but with a fine entrance and run.

No. 2 was made in the proportions of an ordinary coasting trader.

No. 3 in the proportions of a sharp-built schooner.

No. 4 was a twin boat, similar in its sections to No. 1, only that the breadth of each portion was half of the other breadth, while the depth was the same.

The weight of all the models being alike, their displacement of water was equal, although their draft, or depth of immersion, was necessarily different.

The usual way of trying the resistance of floating bodies is by drawing them across a dock or basin, by a cord running over delicately hung pulleys on a high mast, and with certain weights attached: the time is accurately noted which each form requires to move through a certain space, and the comparative resistances are calculated from these elements.

*Mr. Robinson was presented by the Society with their silver medal for this very valuable communication.

This method presents many difficulties and disadvantages; and I therefore resolved on adopting a different one, which should admit of each experiment being carried on through a much greater space than can be accomplished by means of cords and pulleys. My first intention was to tow each model by a long slender line from the after part of a light steamboat, which was capable of running about seven miles per hour in the canal. This line was to have been attached to an hydrostatic dynamometer, and by this means the strain exerted on the towing line at every different rate of speed by each of the models in succession might have been approximated. I was enabled, however, by a suggestion from an ingenious friend (Mr. Oldham, of the Bank of Ireland), to adopt much more summary and satisfactory way of determining the comparative resistance of the different models; and as it was the comparative resistance alone which required investigation, there could be no inducement to go through the more tedious process of trying the resistances separately, and of incurring the risk of error from mistakes in reading off the indications of the dynamometer.

I prepared accordingly a spar or yoke, of 16 feet 8 inches long, which was divided into 100 parts of 2 inches each; a small eye-bolt was fixed at each extremity, and a shifting hasp fitted to the middle part. With this yoke all the experiments were made by the two following processes. 1st, a model was attached by a slender towing-line to each eye-bolt, and the hasp was fixed exactly in the middle of the yoke, and linked to an outrigger on the steam-vessel, which was then set in motion at the required speed. If it was found that one of the models preceded the other, in consequence of

its offering less resistance, the hasp was shifted along the spar towards the sluggish one, until the resistances were balanced, and the two models ran abreast of one another. The relative lengths of the arms of the yoke then gave an inverse measure of the comparative resistances of the models, at that rate of speed; this being noted down, the hasp was brought again to the middle of the yoke, and the model which showed least resistance was by degrees loaded with weights until it again exactly balanced the other, and swam abreast of it; the amount of the added weights being likewise noted, afforded a second measure of the difference of the resistance of the two models.

Each of these forms of the experiment was gone through with different pairs of the models, and was frequently repeated through long spaces of the canal, as it was found that various circumstances interfered to render the resistances inconstant, such as approaching nearer to the one or the other side of the canal, passing a loaded vessel, or making a turn round a projecting part of the bank.

It was at first attempted to conduct the experiments by towing the models astern; but it was immediately found that the ripple of the wake of the steamer disturbed the uniformity of the resistance of the models. Various modifications were then tried with more satisfactory results, and finally the arrangement was made as follows: A spar, like a bolt-sprit, of about twenty feet in length, was run out a little above the level of the water from the bow of the steamer, the hasp of the yoke being attached by a link to the point of this spar, the models were in this way kept ahead of the steamer in smooth water, and were altogether undisturbed by any ripple or wave.

TABLE A.—Experiments with equal Loads.

Models tried.	United Weights of Vessel and Load.	Divisions in the arms of Yoke when at 3 miles per hour.	Difference.	Divisions in the Arms of Yoke when at 6 miles per hour.	Difference.
No. 1. Flat Vessel No. 2. Coaster...	192 each	{ 48 52 }	4 div. or 1-12	{ 50 50 }	None.
No. 1. Flat Vessel No. 2. Coaster...	256 "	{ 46 54 }	8 div. or 1-6	{ 50 50 }	do.
No. 1. Flat Vessel No. 2. Coaster...	320 "	{ 47 53 }	6 div. or 1-8	{ 49 50 }	2-100 parts
No. 1. Flat Vessel No. 2. Coaster...	392 "	{ 45 55 }	10 div. or* 1-5	{ 49 51 }	2 div. or 1-24.
No. 1. Flat Vessel No. 3. Schooner ..	192 "	{ 45 55 }	10 div. or* 1-5	{ 50 50 }
No. 1. Flat Vessel No. 3. Schooner ..	256 "	{ 43 57 }	14 div. or 1-3	{ 50 50 }
No. 1. Flat Vessel No. 3. Schooner ..	320 "	{ 44 56 }	12 div. or 1-4	{ uncertain }
No. 1. Flat Vessel No. 3. Schooner ..	392 "	{ 45 55 }	10 div. or* 1-5	{ 49 51 }	2 div. or 1-24.
No. 1. Flat Vessel No. 4. Twin do...	256 "	{ 50 50 }	0 0	{ uncertain }
No. 1. Flat Vessel No. 4. Twin do...	320 "	{ 53 47 }	6 div. or 1-8	{ uncertain }
No. 1. Flat Vessel No. 4. Twin do...	392 "	{ 52 48 }	14 div. or 1-12	{ uncertain }

in favor of No. 1.

TABLE B.—Experiments with equal Arms of the Yoke at 3 Miles per Hour.

Models compared.	Depth of Immersion in inches.	Weight of Vessel with their Loads.	Difference.
No. 1 Flat Vessel..	4-91	256 lbs.	32
No. 2 Coaster.....	8-5	288 "	No. 2 carries 1-8 more than No. 1.
No. 1 Flat Vessel..	6-083	320 "	72
No. 2 Coaster.....	10-083	392 "	No. 2 carries 2-9 more than No. 1.
No. 1 Flat Vessel..	4-17	192 "	42
No. 3 Schooner ..	8-41	234 "	No. 3 carries 2-9 more than No. 1.
No. 1 Flat Vessel..	5-75	320 "	42
No. 3 Schooner ..	10-25	362 "	No. 3 carries 2-15 more than No. 1.
No. 1 Flat Vessel..	4-17	256 "	00
No. 4 Twin Vessel.	4	256 "	No difference at this rate of speed.

N. B.—The depth of immersion entered above is that observed when the vessels were at rest, and which did not appear to alter when in motion.

TABLE C.—Experiments with equal Arms of the Yoke at 6 miles per hour.

Models Compared.	Immersion in inches.	Weight of Models when loaded.	Difference.
No. 1. Flat Vessel....	4 2-12	192 lbs. {	—
No. 2. Conster,.....	6 4-12	192 " {	—
No. 1. Flat Vessel....	4 11-12	256 " {	—
No. 2. Conster,.....	8 1-12	256 " {	—
No. 1. Flat Vessel....	4 7-12	192 " {	—
No. 3. Schooner shape	7 9-12	192 " {	—
No. 1. Flat Vessel....	4 11-12	256 " {	—
No. 3. Schooner shape	9 2-12	256 " {	—
No. 1. Flat Vessel....	5 9-12	320 " {	—
No. 4. Twin Boat....	5 7-12	320 " {	—

The draught of water noted in the column of immersions was that observed when the models were at rest previous to the commencement of each experiment; the actual immersion during the experiment was considerably less, especially in the flatter vessels; but there were no means of ascertaining it precisely.

The accompanying tables contain the results of these trials, from which the important inference may be drawn, that there is no form which will present a minimum resistance in all circumstances; and that the form which is easiest drawn through a canal at a low velocity does not possess the same advantages at a higher rate of speed.

By looking into the table A, experiment 1st, we see that, although the resistance of No. 1 be to that of No. 2 as 13 to 12, when the velocity is 3 miles per hour, yet when the speed is increased to 6 miles, the advantage which No. 2 had over the flatter vessel entirely disappears.

Again, in table B, we see that in one experiment No. 2 carries two-ninths more weight than No. 1, with equal resistance, when the velocity is 3 miles per hour; but that when the rate is raised to 6 miles, the loads require to be made the same in both, in order to equalise the resistance.

It appears, from numerous experiments made at intermediate speeds, that this change in the relative resistance is progressive; there is reason, therefore, to conclude, that if circumstances had admitted of carrying on the experiments at a higher velocity than 6 miles per hour, the flatter formed vessel would have attained a superiority over the sharper ones: this conclusion is corroborated by the fact, that the swiftest going steam-vessels which have been built in this country are those which are nearly quite flat in the floor for a great proportion of their whole length.

The first practical inference which may be drawn from these experiments is, that all vessels which are intended to be tracked, or impelled by machinery, through canals at low velocities, should be built as sharp in their bottoms as circumstances will admit of, although this must necessarily increase their draught of water; the second inference is, that whenever vessels are intended to move in canals with a higher rate of speed than 6 miles per hour, the general form of the bottom should be nearly quite flat.

ITHACA AND OWEGO RAILROAD.—The following account of the Ithaca and Owego Railroad has been furnished us by a friend, who will please accept our thanks for his politeness. We are indeed gratified to learn that this road is in operation, as it will, beyond all question, dispel unfounded prejudices, and produce a proper spirit and feeling among those whose interest will be most promoted by their general introduction:

COMPLETION OF THE RAILROAD.—In pursuance of arrangements to that effect, as announced in our last, the first grand experiment on the Ithaca and Owego Railroad, was made on Monday of this week. At 9 o'clock in the morning, between fifty and sixty cars, each drawn by two horses, and loaded with salt, plaster, and passengers, left the head of the plane for Owego. The train was led by three pleasure cars, filled with passengers,—among whom were the president and a part of the directors of the railroad company, the engineer-in-chief, the assistant engineers, the superintendents of carpentry and masonry, a part o.

the directors of the Bank of Ithaca, and several other gentlemen of high standing and respectability from Tompkins county. Thus arranged, and accompanied by a first-rate band of music, they proceeded to within about three miles of Owego, where they were met by four cars, filled with citizens from that and some of the neighboring towns, among whom were the members of the board of directors from that village, the officers of the corporation, the clergy, &c., as also the Owego band. As the cars approached each other, three hearty cheers went forth from the party from Owego, which in the same flow of good feeling was almost immediately responded to. After a few moments delay, the united train was again put in motion, and as it came in view from the bridge, one mile from the village, a field piece that had been placed there for the purpose, was discharged as a signal of its approach, which was immediately re-echoed by another from the village. On passing the park, in front of the academy, and whilst rounding the curve to come into Front street, one of the grandest spectacles presented, we do not hesitate to say, that has ever been witnessed in this section of the state, and we had almost said in our country. The streets, on either side of the park, presented one dense mass of admiring spectators, who had congregated from the neighboring towns and counties, whilst the doors and windows of the academy, the court-house, and the private dwellings, on the right hand and on the left, gave fair evidence of the "hearty welcome" that responded from every bosom. It was under these peculiarly gratifying circumstances that the cars, in regular succession, and at short intervals, rolled through our streets until they arrived in front of the hotel,—whilst the roaring of cannon, the ringing of bells, the waving of flags, the exhilarating music from two excellent bands, and the loud and oft-repeated buzzes of the multitude, produced an animation that brightened every countenance, and gladdened every heart. The scene was novel and interesting beyond description, and the reader must draw largely upon his imagination in order to have any thing like correct conclusions as to the high and universal gratification which prevailed.

About 3 o'clock, the company sat down to an excellent dinner, prepared by Mr. Manning, at the hotel. L. A. Burrows, Esq., presided at the table, assisted by T. Farrington, and S. B. Leonard, as vice-presidents. After the cloth was removed, several appropriate sentiments were given, some of which we give below. Judge Bloodgood, President of the Railroad Company, being called upon, rose and delivered a very appropriate address, and closed by offering a sentiment; but the committee had not been able to obtain a copy for publication when our paper went to press.

TOASTS.

1. The Ithaca and Owego Railroad. We hail its completion as a matrimonial alliance between the waters of the Cayuga Lake and the Susquehanna River; may its progeny be prosperity to the surrounding country, and a rich return to the enterprising individuals who have projected and accomplished the work.

2. Individual enterprise. It has erected a monument in this part of Western New-

York, which justly excites the pride of our citizens.

3. The Erie Canal, and New-York and Erie Railroad. The same liberality and foresight which hastened the completion of the one, will overcome the obstacles and prejudices which retard the construction of the other.

4. The Southern Tier of Counties. They have borne their share in the burthens of internal improvements. It is just that they should share in its benefits, by an extension of the system.

5. The State of New-York. Indebted to Nature for its advantages, and to its Citizens for the improvement of them.

6. Our Neighbor, and Rival in Internal Improvements—the Commonwealth of Pennsylvania. A timely exercise of sound policy on the part of New-York, will prevent a large slice of the Empire State from passing into the hands of Simon Snyder.

7. The Cayuga Lake has long courted the Susquehanna River. To-day we celebrate their wedding.

8. The President and Directors of the Ithaca and Owego Railroad Company. Their persevering and successful efforts entitle them to our gratitude.

9. Ithaca and Owego. Prosperity to the one is prosperity to the other.

10. The Stockholders of the Ithaca and Owego Railroad. May the revenues of the road enable them to sing to the tune of money in both pockets.

11. The memory of De Witt Clinton. He was the efficient friend and the able and eloquent advocate of internal improvements.

12. The constituted authorities of the State of New-York, and of the United States.

13. The New-York and Erie Railroad. Its construction no otherwise inexpedient or impracticable, than was the construction of the Erie Canal. The objections to both have the same foundation,—ERROR. But a wise man has said, "error may be tolerated, when reason is left free to combat it."

Volunteers.—By N. Randall. John Randel, Jr., Engineer-in-Chief of the Ithaca and Owego Railroad. To his profound skill, and untiring perseverance, are the people of Owego indebted for their present celebration.

By John Randel, Esq. The Citizens of Owego. May all their future intercourse with the citizens of their sister village of Ithaca, be as happy and joyful as the intercourse of to-day.

By Wm. R. Collins. Richard V. De Witt, Treasurer of the Ithaca and Owego Railroad—the main spring of the work.

By J. S. Beebe. The Ithaca and Owego Railway. The true way to unite the interests, and promote the prosperity of the villages of Ithaca and Owego.

By D. C. Woodcock. John Randel, Esq., Chief Engineer of the Railroad. His character as a man of science, is well attested by the beauty and excellence of the work which he has just completed, and has heretofore been abundantly established by a verdict of \$226,000 *

By Henry Ackley. The Ithaca and Owego Railroad Company, and Susquehanna and Cayuga Banks. May the former remove the deposits of the latter to the tune of ten per cent. profit.

By T. Farrington, Esq. The Engineer-in-Chief, the Assistant Engineers, Superintendents and workmen on the Ithaca and Owego Railroad.

By Samuel Crittenden. The matrimonial connection between the Cayuga Lake and Susquehanna River. May it multiply and increase abundantly.

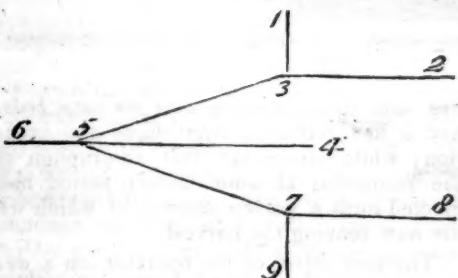
* Referring to a verdict recently obtained by Mr. R. against the Chesapeake and Delaware Canal Company.

On the Currents of the Ocean. By G. K. O. To the Editor of the Mechanics' Magazine, and Register of Inventions and Improvements.

Sir,—I have lately read the dissertation on

the Oceanic Currents, in your last Number, and am induced to think the author in error as to their cause. If, according to his hypothesis, the earth received a sudden impulse, causing it to revolve, (I suppose of course at the same rate it now does,) and leave the waters nearly stationary, they would have appeared to a spectator at the equator to move with the velocity of 1000 miles an hour. This would continually decrease, and at length become imperceptible, on account of friction against the bottom and adjacent particles. But the time that has elapsed since the earth received its first impulse has not been sufficient to produce this effect, or so far as we are acquainted with the subject, even a similar one. Undoubtedly the cause as well as the consequence is permanent and continued, and is, I conceive, easily as-signed.

The torrid zone receives more heat from the sun than any like extent of the earth's surface; consequently, its air is heated more than any other—is of less specific gravity than the cooler air of the temperate zones, and of course rises to the higher parts of the atmosphere, being forced up by the air that comes in to supply its place. This would produce a direct motion from north to south towards the equator in the directions 1-3 and 9-7.



Now, the surface of the earth, at the latitude of 45 degrees, revolves about the rate of 700 miles an hour, and if the air of that region were suddenly transferred to the equator, it would apparently move from east to west at the rate of 300 miles an hour in the direction 4-5, but as the transfer is gradual, it would receive velocity from the earth in its passage over it, and therefore its apparent velocity at the equator would be comparatively small if contrasted with the difference of velocities at 45 and 0 degrees.

We have now the two motions 3-2 and 1-2, which, being compounded, will produce the single motion 3-5. Two streams of air from the north-east and south-east, represented by 3-5 and 7-5 meet at the point 5; their opposite forces, 1-3 and 9-7, being equal, will be destroyed, and the remaining forces 2-3 and 8-7 will continue in the direction 5-6.

This, then, is the reason why, near the equator, the wind blows from east to west, and north and south of it from north-east and south-east. The air is here, for simplicity, represented as moving in straight lines; but it really moves in curves, and the line of direct motion from east to west is a few degrees north of the equator.

If we suppose the waters of the torrid zone much exposed to the heat of the sun, aided by the dry winds from the land, evaporation will proceed rapidly. Of course, then, the waters at the equator would be relatively lower than those of the other parts of the earth, which would therefore flow toward the equator, and take a westerly course,

for the same reason that the air does, subject however to more modification, interruption, and counter currents, inasmuch as it meets with more impediments. I think the currents round the Capes and in the Indian Ocean are perfectly explicable on this hypothesis (theory?), and I might enter into detail if circumstances permitted.

Yours, &c. G. K. O.

THE ENJOYMENT OF READING.—We said a word or two on this subject in our preceding volume; and on account of its great importance to every individual, we cannot help again adverting to it. We recommend those who have not taken the *Penny Magazine* from its commencement, at least to purchase No. 95, for September 28, 1833. It is most gratifying to reflect that there is not a human being, endowed with health and the ordinary condition of the human faculties, that may not participate in what Sir John Herschel appears to consider the greatest of human pleasures. It is delightful to foresee that, when the whole of society shall be so far educated as to derive pleasure from reading, and when books are as common as bread and potatoes, the hardest-worked agricultural laborer or mechanic, when he goes home from his day's toil, may plunge at once into intense enjoyment by taking up a book. The most gratifying circumstance respecting this enjoyment is its universality, and its applicability to all countries, all future ages, and to every human being in tolerable health and above destitution. It is equally applicable to man, whether in prosperity or in adversity; whether in prison or free; and even, to a certain extent, whether in health or sickness. Another gratifying prospect anticipated from the result of universal reading is, universal improvement of worldly circumstances. Let any taste become general, and the regulations and habits of society will accommodate themselves to that taste. The hours of labor, at present, afford barely time for eating and sleeping; but when reading becomes a necessary of life to every, even the lowest, class of society, they will be reduced so as to afford time for that enjoyment also. Surely, if nothing else were to be gained by a system of national education, but the power of conferring so much happiness on millions, it

would deserve the patronage of every benevolent mind, and be worthy the adoption alike of governments professing to be paternal or to be representative. But the main object which we have now in view is, to impress Sir John Herschel's statement strongly on the mind of the young gardener, so as to encourage him, above all other earthly things, to cherish a taste for reading in himself, and in all those with whom he may have any thing to do. Another point to which we wish to direct attention is the necessity, when a national system of education is established, of adding to every school, not only a garden, a workshop for teaching the simpler operations of the mechanical arts, and a kitchen for teaching the girls cookery, but also a circulating library for the benefit of the whole parish. In furtherance of these objects, we cannot resist giving the following short extract from Sir John Herschel's address: "Of all the amusements which can possibly be imagined for a hard-working man, after his daily toil, or in its intervals, there is nothing like reading an entertaining book, supposing him to have a taste for it, and supposing him to have the book to read. It calls for no bodily exertion, of which he has had enough, or too much. It relieves his home of its dulness and sameness, which, in nine cases out of ten, is what drives him out to the alehouse, to his own ruin and his family's. It transports him into a livelier, and gayer, and more diversified and interesting scene; and, while he enjoys himself there, he may forget the evils of the present moment, fully as much as if he were ever so drunk, with the great advantage of finding himself the next day with his money in his pocket, or, at least, laid out in real necessaries and comforts for himself and his family,—and without a headach. Nay, it accompanies him to his next day's work; and, if the book he has been reading be any thing above the very idlest and lightest, gives him something to think of besides the mere mechanical drudgery of his every-day occupation,—something he can enjoy while absent, and look forward with pleasure to." . . . "If I were to pray for a taste which should stand me in stead under every variety of circumstances, and be a source of happiness and cheerfulness to me through life, and a shield against its ills, however things might go amiss, and the world frown upon me, it would be a taste for reading." —[Penny Magazine.]

METEOROLOGICAL RECORD, KEPT AT AVOYILLE FERRY, RED RIVER, LOU.
For the month of March, 1834: Lat. 31.10 N. Long. 91.59 W. nearly.)

Date.	Thermometer.			Wind.	Weather, Remarks, &c.
1834.	Morn'g.	Noon.	Night.		
March 1	37	63	60	w—light	clear—light white frost—Red River rising, below high water 5 ft. 6 in.
" 2	45	58	51	N	"
" 3	41	57	51	N—light	"
" 4	36	74	58	"	cloudy—white frost—rain at night
" 5	54	66	64	calm	" morning—evening and night clear
" 6	60	73	70	s—light	" all day
" 7	68	75	74	s—high	" " —at night heavy rain and thunder
" 8	60	71	55	calm	" " —evening and night heavy and steady rain
" 9	48	48	46	N E	" " " " " light and drizzling "
" 10	46	48	49	N E light	" —drizzling all day and night
" 11	50	56	55	calm	" " " " "
" 12	54	63	62	"	" —heavy thunder and rain all day—night foggy
" 13	59	61	60	"	" —evening thick clouds, and the sun visible through them
" 14	59	61	67	"	clear all day
" 15	54	73	68	cloudy	"
" 16	58	74	71	s w	" —rain
" 17	64	67	65	calm	" —evening clear
" 18	64	74	70	"	" —and showers all day
" 19	64	72	71	s E—light	clear all day
" 20	65	70	65	w	"
" 21	50	65	60	N	"
" 22	47	64	58	calm	"
" 23	52	67	66	s	cloudy all day—night clear
" 24	60	74	71	calm	" —rain and heavy thunder showers—night clear
" 25	69	80	72	s w	" —night wind severe, w—planted <i>Beda</i> grass and <i>Guina</i> grass seed
" 26	54	66	64	calm	" —planted second lot of Irish potatoes and sweet potatoes
" 27	61	66	68	"	" — field of corn, peas, beans, and sowed grass seeds—heavy rain and thunder
" 28	64	70	63	"	" —rain, and heavy thunder showers
" 29	63	76	72	clear all day	"
" 30	57	73	71	"	
" 31	64	73	73	s—high	cloudy morning—clear day

Red River rose this month 2 feet 9 inches—below high water, 2 feet 9 inches.

G. B. Palmer's Gold-Washing Machine. By J. STICKNEY. To the Editor of the Mechanics' Magazine.

DEAR SIR.—Accompanying this rude sketch of a Gold-Washing Machine, I also send you a few remarks, which, from various circumstances, will of necessity be still more crude and hasty.

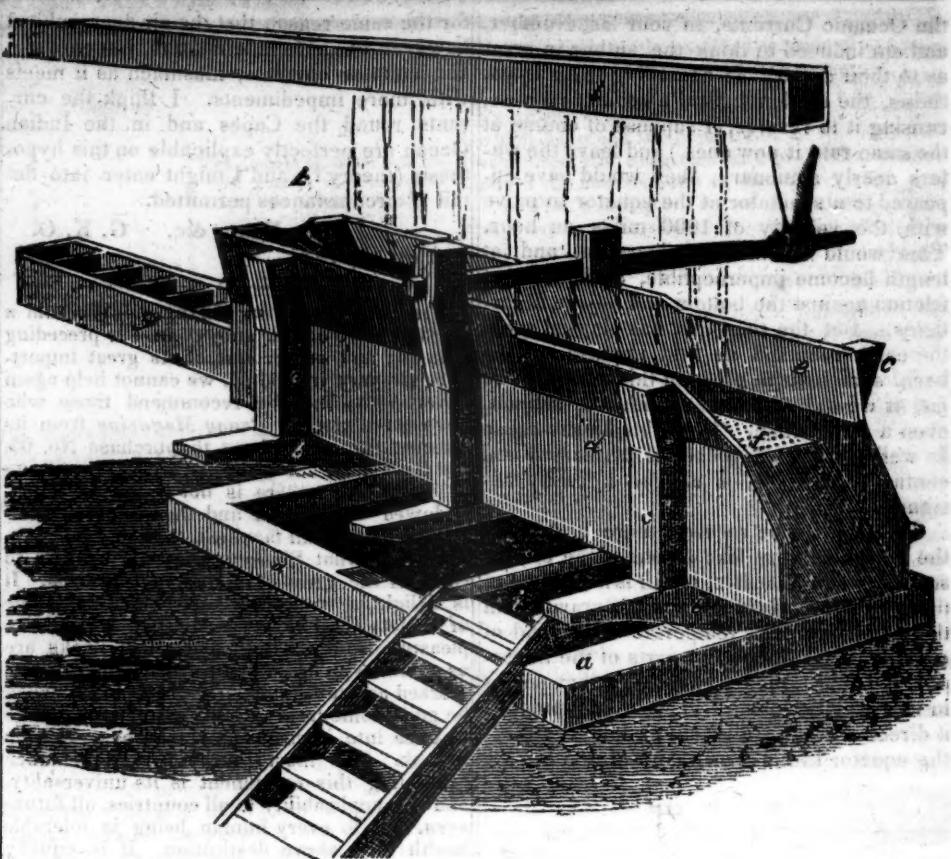
REMARKS.—*a*, parts of a horizontal frame, 5 feet long, 3 wide; *b*, rockers supporting the trunk of the machine; *c c c*, posts inclosing the trunk; *d*, trunk in which the rippler is secured, 7 feet long; *e e*, sloping sides of the box; *f*, cast iron plates, 5 feet long, 15 inches wide; *g*, the rippler, partly drawn out; *h*, outside rippler, stationary; *i*, box, conveying the water to the outside rippler; *k*, the head, or feeding place; *l*, water conductor. The rockers are shod, and stand on plates of iron; a bolt fixed in the sill passes into a hole in the centre of each, to keep them from slipping. The sill of the centre frame, (to which is fastened the handle,) continues beyond the post, and, when the machine is in operation, beats upon two irons on the lower frame, to give motion to its contents. When washing, the rippler is locked up in the body of the trunk, and not seen; the true form of its partitions is seen



at *g 2*. The machine is "fed" at *k*, and the stones, &c. discharged at the sloping end; the gold and sand having passed through the plate, *f*, into the rippler which contains mercury, if any gold escapes the first ripple it is supposed to be caught in the one outside.

The gold mines of this country may be divided into those of *vein*, *surface*, and *deposite*. The first have a great diversity of appearance; in some of them the gold is imbedded in pure white quartz rock, and often visible to the naked eye. Of this kind is at least one vein at Carroll county, Georgia. Others in white and red sand stone, (the King's Mountain mine possesses masses of pure white stone, which is so friable as to crumble to fine sand between the fingers;) some in sulphuret of iron, in different stages of decomposition, (of this kind is an extensive vein at Narcoochly Valley, in Georgia;) others in the oxides of iron, or ochres. Sometimes it appears in dark spongy masses, the gold tipping the edges, and points of the structure in such manner as to resemble the small flowers of lichens. In some mines a dark, porous, and vitrious substance is exhibited, impressing the idea that the mass had been suddenly cooled when in extreme fusion. In one specimen from South Carolina the gold is disseminated in small particles through a rock, resembling fine variegated marble; as it does not contain lime, I presume it a species of slate. Another, which I obtained at the celebrated Duncan vein, (No. 1052 of the Georgia Lottery,) has particles of rich gold embedded in strata of slate, or rather of slaty structure, unctuous, of pearly lustre, and somewhat resembling stratite.

These veins are of various widths, from a few inches to that of several feet; but I believe little is known as yet respecting their length or depth. They are usually inclined upon one side, or are said to dip, the angle of which varies from that of nearly a vertical position, to more than 45°.



In places where the soil has been washed from the sides of hills, these veins of quartz, of various sizes, are seen traversing the micaeous slate, or gneis, and, as it may be presumed that some of these small as well as large ones contain gold, it may not be unreasonable to account for the *surface* and *deposite* mines, by supposing it to be disintegrated from its natural bed by the effects of frosts, atmosphere, water, &c. Veins thus broken down, and the gold disengaged, will constitute what is called a *surface mine*; one of this kind before the door of a neighboring dwelling is now being operated upon, worth from two to three dollars per hand, per day, which has been trodden under foot for thirty years. From these *surface mines* the gold (being assisted by every shower that forms a rill) finds its way to the beds of the streams, and is deposited as soon as the gravity of each particle overcomes the force by which it is impelled forward; being heavier than other substances, and by the constant changing of the beds of the streams, and other causes, it finds the lowest situation in the deposite, that is, next to the slate, which arrests its downward progress. Next in specific gravity is the quartz and iron rocks, which are also found resting on the slate, and are covered by various strata of other soils, from the depth of from one to thirty feet; and as the constant deposition of gold may be supposed to be going on by fresh accumulations from the surface, and particles disengaged from fragments of rocks by attrition, in their way downward, and as the progress of these *particles* is in some degree impeded by the firmness of this quartz strata, we are enabled to account for their being diffused through this mass generally.

I should not thus gravely attempt to account for "gold in deposite," was it not that we have philosophers who assert that it *grows*—that new creations of the precious metal are afforded "day by day;" and oth-

ers, that those streams were *its natal beds*, and it has remained here since the creation; while others say that an eruption of the mountains at some distant period had ejected forth a golden shower, of which we are now reaping the harvest.

The first object of the operator on a *deposite* mine is to ascertain its value, for which purpose he usually proceeds in the following manner: He finds the depth of the "grit," or quartz deposite, by forcing down a slender iron rod. If not too deep, he excavates the soil in pits or ditches. When reaching the grit he washes a small quantity, and proceeding through that strata to the slate, tries it again by washing, and if from these results in several places he forms a favorable opinion, he sets about preparing the mine by cutting ditches for the streams, and others for draining the mine, which sometimes are necessary to be twelve or fourteen feet deep, and of great length. His supply of water for washing must be brought in in small canals six or eight feet above the surface of the mine, and often times the fountain must be sought a mile or two from the place of operation. The next thing is to place his machine, or rockers, where they will be most convenient for the plan of his future operations; he then clears a pit ten feet wide, and from ten to one hundred and fifty yards in length. As soon, however, as a portion of the grit is laid bare, a number of the hands are employed in raising, and others in wheeling it in barrows to the machine, where one is employed to fill it, one to move it, one to cast away the cocks when washed, and perhaps another to keep the outside rippler clear from sand. The grit being placed in the machine, (which in some respects resembles a family cradle,) and agitated from side to side under the streams of falling water, washes the gold and sand through the cast iron plates into the inside rippler containing mercury, where, by

the strong affinity or attraction which exists between the mercury and the gold, the latter is secured, while the sand is washed away. When the day's work is finished the rippler is drawn out, the gold in amalgam washed and secured, and the mercury expelled by heat. It is then sent to the refiners, where all foreign substances (silver excepted) are destroyed by the different agents employed in this fluxes, and (if correctly refined) valued accordingly, the quantity of silver in different mines is supposed to vary from two to forty per cent.

Machines of various constructions have been used in collecting the gold, but the one here represented has mostly taken the place of all others among regular miners. It was invented and patented about three years since by Mr. G. B. Palmer, of Spartanburgh, South Carolina, whose experience in mining enabled him to embrace in this simple form every requisite principle for effectually collecting the fine as well as coarse particles of gold. His price for rights amounts to a mere compensation for his expense and labor in perfecting his improvement.

We fear that the richest mines in this vicinity are mostly wrought out, and that we shall soon begin to feel the effects of the "removal of the deposits."

Most respectfully, yours, &c.
J. STICKNEY.

AGRICULTURE, &c.

CULTIVATION OF BARLEY.—Although this grain is of very considerable importance, yet we are inclined to think that the apple, the grape, and other fruit, from which liquids are obtained, will prevent a great increase of barley culture. For most of the following information we are indebted to Goodsell's Genesee Farmer.

More than two-thirds of the barley raised in the United States is the produce of this state, and this is almost wholly grown in the northern and western parts. The quantity marketed at Albany and its neighborhood, in 1833, is stated at 450,000 bushels. This, estimated at seventy-five cents a bushel, makes an aggregate of \$37,500 dollars.

Barley, as a field crop, has been cultivated from time immemorial. It is not known of what country it is a native, nor at what time it was first cultivated. At this time it is much more extensively cultivated in England than it is in this country. Few crops require more care in the cultivation, or are more apt to disappoint the cultivator in all the good wheat growing districts in the United States, than barley.

There are six species of barley at present cultivated in England, viz. :

Spring or Summer Barley.—There are two varieties of this species, but the one commonly cultivated (*H. vulgare*) may be distinguished from the Siberian barley by the heads being much larger, and, as well as beards, arranged in double rows, whereas the other is single, which the heads appear flat. This is considered the best kind of barley for malting, as the husk is light.

Winter Barley.—There are three kinds of winter barley which are at present cultivated for profit, besides two or three species and varieties that are cultivated as matters of curiosity.

The common or long eared Barley (*H. distichon*) is perhaps cultivated more than both the other species. Both heads, and awns, or beards, of this kind, are much longer than those of other kinds of winter barley. The heads of this kind are flat.

Square Winter Barley.—The heads of this kind, though not as long as the foregoing, are much thicker and have the appearance of being square, the grains being arranged in four distinct rows. This is accounted a harder species than the long eared, and not as subject to be injured by the winter.

Big or Barley big.—This species has large square heads, with grains arranged in six rows, and is cultivated on account of its being earlier than the common or square barley. It is not valued so high for malting as either the other two varieties mentioned.

If the different kinds are mixed they will not command as good prices from the brewer, on account of requiring different lengths of time in malting. The loss in this way last year is stated at ten per cent. upon the whole product, or equal to 45,000 bushels.

Soil and Climate.—Barley succeeds best in a cool damp climate, and there upon a fine warm sandy loam; but where the climate is warm, and dry, as in most of New-York, a loose soil, rather moist than dry, produces the best crops. The best crops of barley grown in the state of New-York are upon a high range of table land on the north side of the Mohawk river, near Fairfield. From the elevation of this range of land, it is too cool to produce either corn or wheat, unless when the seasons are usually favorable, but it produces barley in great perfection. It does better upon corn than wheat soils. It may be sown upon a clover ley, or after a hoed crop, which has been well manured; but recent manure should by no means be applied to the barley, as it induces a rank growth, and causes the grain to lodge. When the plants are three or four inches out of ground, the roller may be passed over the field with great advantage. By often burying the crown it causes the grain to tiller, or multiply its seed stalks, and causes a beneficial compactness to the soil. It should be sown upon the fresh ploughed soil, and well harrowed in. Grass seeds may be sown with this crop to advantage.

In preparing lands for winter barley, the course taken is the same as in preparing for wheat, and the sowing done in the same manner, but there should be twice as much seed sown upon an acre as of wheat.

The seed for light should come from strong land, otherwise it degenerates in bulk and fullness. A change of seed is more important in this than in most other grain. The best seed for sowing is that which is free from blackness at the tail, and is of a pale yellow color, intermixed with a bright whitish cast; and if the rind be a little shrivelled, it is so much the better, as it shows that it has sweated in the mow, and is a sure indication that its coat is thin.

Fresh stable manure should never be used upon land to be sown with barley, as it will generally be found to do more hurt than good. Lands for barley should always, where the soil will allow of it, be ploughed deep, and after seeding, the process should be finished with the roller. There is not a crop raised where the use of this implement is more important. By examining the plant, it will be seen at once that it is not well calculated to stand the drought, as the roots are small and do not penetrate deep, and it has a great proportion of broad, thin foliage.

Summer barley should be sown about the same time as oats, and lands capable of producing good crops of the one will be found suitable for the other.

From the great quantity of foliage produced by winter barley, when sown early in the fall, in countries where the snows lie deep and long, it is found advantageous to feed it with calves or sheep previous to the setting in of winter, to prevent it from moulding.

Harvest Management.—There is more care required in the management of this than any other crop raised upon a farm. If cut too soon, it will be found very difficult to separate the

awns, or beards, unless thrashed in a machine; if allowed to stand too long, the ears are apt to break off at the bend of the straw near the head. If cut green, and suffered to remain upon the ground, to render the awns brittle, through rain storms, many of the grains will vegetate, which renders them of little worth for malting. Where farmers are provided with thrashing machines, the better way is to allow barley to stand until fully ripe, then cut it with a scythe, and let it remain upon the ground a day or two, if the weather is favorable, then take it directly to the machine, and thrash and clean it.

The quantity of barley produced per acre is quite variable. We have sowed good lands, that did not produce more than twelve bushels; and we have seen upon lands that were no better in quality, nor better prepared, crops that would average fifty bushels, much depending upon climate for its perfection. In England the average produce is allowed to be about twenty-eight bushels per acre.

From the uncertainty of the crop, barley is cultivated but little for any other purpose but malting for beer, so that the market price will depend upon the distance at which the crop is raised from a brewing establishment.

In some parts of Europe barley is extensively used for making bread; but in this country, where, in most parts, a bushel of wheat may be raised as cheap as a bushel of barley, it is not likely to come into use as an article of food.

STRAW WEAVING.—We had the pleasure, a few days since, of witnessing the operation of weaving straw for the manufacture of bonnets, at the establishment in this town, under the direction of Mr. J. P. Golding. There are now employed in this establishment upwards of 100 females, all engaged in weaving the straw into plaits or webs of about two inches in width. The variety of patterns is large, many of them very beautiful. In some the common rye straw of this country is interwoven with the Tuscan straw. The web or warp into which the straw is woven is composed of silk doubled and twisted from the cocoons very fine, but yet sufficiently strong for the purpose. This silk is prepared, as we are informed by Mr. G., by a son of his, who is located in Mansfield, Conn. where for several years past a considerable quantity of silk has been produced. Mr. Golding was formerly a silk weaver in Manchester, England, and his family understood the culture of the worm, the manufacture and weaving of silk, and are said to be in the exclusive possession of this information in this country. Mr. Golding has already invented machinery and woven several patterns of silk vesting and webbing in this country, but at present this part of the business cannot be profitably carried on here. He intends, however, to prosecute the business, and has set out trees for that purpose at Dedham.

We have no doubt that the production and manufacture of silk will become a very important branch of American industry, as many millions of dollars are annually paid for the imported article. We have yet much to learn, but a few years will put the country in full possession of all the necessary information for carrying on successfully every branch of silk manufacture.

We notice by the papers that some silk handkerchiefs have been manufactured in Dayton, Ohio, under the superintendence of Daniel Roe, Esq. the produce of the native mulberry. Their color is the natural color of the silk, and they appear to be a very durable article.—[Bunker Hill Aurora.]

To preserve Cheese.—If you have a greater quantity of cheeses in the house than is likely to be soon used, cover them carefully with paper, fastened on with flour paste, so as to exclude the air. In this way they may be kept from insects for years. They should be kept in a dry, cool place.

COLUMBIAN STRAW CUTTER.—Noah Davis, of York, Livingston county, has exhibited a machine in this village denominated the Columbian Straw Cutter, patented to Amos Russell and himself on the 19th of November last.

Several hundred people examined the principles of the machine, and saw it operate in cutting straw, hay, &c., and almost without a dissenting voice pronounced it the best machine for cutting fodder that they had ever seen.

That the public may have some idea of this machine, a partial description of it is given:

Three knives (more or less,) say twenty inches in length, are placed upon a cylinder diagonally, by means of screws—the cylinder is about 20 inches in length by 28 in diameter, which is placed on a frame in the manner usual for hanging a grindstone—on a bar of wood, across the rear of the frame, is placed a thin plate of steel, upon which hay, straw, stalks, or oats in the sheaf, are cut by the passing knives, which come in so perfect, though tight contact with the steel, as not to admit of the thinnest leaf of straw, though alone, to escape uncut. The straw, &c., is carried to the cutting point in the manner that wool is fed into a machine for carding.

The cut may be altered to any length required in three seconds of time, from one-fifth of an inch to an inch or more. A hopper is also placed upright over the summit where straw, &c., is cut, similar to that already described, but is not considered any better, except for cutting ears of corn to short pieces, say half an inch or an inch, which it will do square across the cob at the rate of about a bushel of ears in a minute.

And as people generally suppose this must be hard hand labor, it may be observed that as the cylinder is large, and covered with three inch heavy staves, it not only supersedes the necessity of a fly-wheel, but gives power at the point required, and the knives being placed spirally on the cylinder, and under quick motion, the corn may be cut as above stated by the power of two fingers. All fodder cut is carried into a box beneath.

The knives, by means of the screws which attach them to the cylinder, are set more or less close to the bed shire or steel, almost as easy as the length of the cut is regulated.

To shift from hand to any other power, nothing is necessary but to attach a band or belt to a pulley placed on the end of the shaft instead of a crank.

Any person wishing to take an interest in this improvement, may have a shop, town, county, or state right, on reasonable terms, by applying to Noah Davis, of York, or may have town or county rights by applying to Thomas Williams, of Waterloo, or Philander Denslow, or George W. Huntoon, of Syracuse, Onondago co., his agents.

The machines will be manufactured by Joseph Hall, in Rochester, of whom they may be had on short notice.

Printers who are in favor of agricultural improvements are invited to insert the above. [Genesee Farmer.]

SALSIFY OR VEGETABLE OYSTERS.—*Tragopogon porrifolius.*—This plant, which is known by the several names of salsify, vegetable oyster, and goat's beard, is often confounded with that of the scorzonera hispanica, garden scorzonera or viper's grass.

The salsify is a deciduous, herbaceous, bien-

ial plant, with a long, tapering, white root; salsify shaped, with a white milky juice, and mild sweetish flavor. It has long been cultivated in gardens, for the sake of the roots, which, when cooked, have much the flavor of oysters.

The leaves of the plant somewhat resemble those of the leek, being smooth, green, and pointed. The second year the seed stalk rises three or four feet high, producing flowers of a dull purple color, which are followed by seeds, surmounted by a crown of downy substance, somewhat resembling the common thistle.

Were the valuable properties of this plant more known, it would be more extensively cultivated in gardens, particularly in the inland parts of this country.

It is thought impossible, by many, that a plant should be cultivated which should bear any resemblance, in flavor, to oysters; but all who have tasted salsify, when properly cooked, must not only acknowledge that there is a resemblance, but that this root is a good substitute for the marine production.

The manner of cultivation is precisely the same as that of parsnips; and roots which are not wanted for fall and winter use, may be allowed to stand in the ground in the same manner for spring use.

They are cooked in all the different ways as oysters. When they are intended to be fried in butter, they should be first parboiled, the skin taken off and sliced; the same for stewing, or they may be mashed. They impart a fine flavor to the stuffing for fowls.

There is an annual plant, which belongs to the same class with the salsify, and which very much resembles it, both in leaf and seed, the seeds of which are, sometimes, through design or mistake, sold for salsify seed. It is the *Geopogon glaber*, or old man's beard. It is not worth cultivating.

Scorzonera, or *Viper's Grass*, also belongs to the same class with salsify, but is a perennial plant, with a deciduous, herbaceous top, which grows to about the same height as salsify, but has yellow flowers, which are followed by seeds not unlike those of salsify. The root bears a resemblance also, but is not counted as profitable. The leaf of *Scorzonera* somewhat resembles that of the plantain.

TRANSPLANTING RUTA BAGA.—Mead Atwater, of Brighton, has called at the office, and communicated to us, verbally, his success in cultivating the *Ruta-baga* the past season.

Mr. Atwater informs us that he sowed the seed about the middle of June, on seed beds, and when the plants were a suitable size, transplanted them out at suitable distances. The plants were afterwards hoed, and kept clear from weeds. At the proper season for harvesting he went over the ground with a sharp garden hoe, and struck off the tops which he afterwards gathered up with a rake. He then with a dull hoe pulled the turnips out of the ground. The produce he thought was at least one thousand bushels per acre, and the quality as fine or finer than those which had been allowed to stand where they were sowed.

Mr. Atwater expressed himself in favor of transplanting, instead of sowing the seed where they were to grow, for the following reasons: that it saved once hoeing, which he thought more labor than to transplant them. That the ground might be ploughed at the time of setting, and would continue in better condition for maturing the crop than when ploughed earlier in the season.—[Goodsell's Farmer.]

NEW MODE OF SELECTING SEED CORN.—Mr. Solomon Thayer, of New Braintree, Mass., has left in the office of the N. E. Farmer, several ears of Indian corn, which are remarkable for a property in which common corn is often deficient. The small ends of the ear are filled completely out, quite to the extremity, with sound kernels of good size, instead of an inch or two, more or less, of small imperfect kernels, or barren cob, as is often the case, in the product of

our corn fields. This was effected by Mr. Thayer, by selecting for seed for several years in succession, kernels which grew at the tip of the ear; and as like not only produces its like but improves its likeness, these top-end kernels being planted, produced two or three more ears to a stalk, which were filled, and the ends rounded off with sound corn of larger size than top-end kernels usually are.

We doubt, however, whether these ears are as large as if the largest kernels had been planted. Some cultivators think they have derived advantage by selecting their seed corn exclusively from the largest end of the ear. They tell us that "the nearer the seed is taken from the butt-end the larger will be the ears." Perhaps Mr. Thayer might improve on his praiseworthy experiment by selecting seed corn for two or three years from the large end of his improved ears; and then plant a while from the middle. Dr. Deane, directed in shelling seed corn, to select about an inch from each end of the corn, planting the middle only. But experiments are of more weight than authority in the scale of improvement.—[N. E. Farmer.]

PLANTING CORN.—Although the following experiments are on a small scale, yet they are deserving the attention of the farmer. The article is from the Long-Island Star.

Having made some little experiment in planting corn, I have concluded to relate my doings, and give the result. Six years ago, I planted eight and a half square rods of corn, two feet in width one way, and one foot the other, and one grain in a hill. The result was, I had eleven bushels of ears, making at the rate of 207 bushels to the acre, which I conclude is nearly double that which it would have brought by being planted in the ordinary way. The land was not first rate, tolerably good, and a sprinkling of coarse dung ploughed in.

I last spring planted three-quarters of an acre, three feet three inches in width one way, and about two feet four inches the other way, and put three grains in a hill: there were on the ground about fifty young apple trees, which had been planted three years, and two large pear trees, and I planted four rows of potatoes and a patch of vines, and I conclude that fifteen square rods will not overrule the deduction which ought to be made—that leaves 165 square rods. The result was, I had 82 bushels of ears of corn, which is at the rate of about 125 bushels to the acre; if it had been planted in the common way, I think it would have fell short of producing 100 bushels to the acre.

And I planted half a square rod one and a half feet apart each way, one grain in a hill, seventy-two grains. After it was up, I sprinkled between three and four quarts of unleached ashes on it, having heard say that it was of great advantage to the crop to break off the suckers or scions, which I did to one-half of it twice or thrice. I thought that which I suckered did not look quite so healthy as the other; however, there was little difference. When I gathered, the result was this: I had from the part that was suckered forty-eight ears, weighing sixteen and three-quarters lbs., filling a half bushel, rounding it over; from the other part I had forty-four ears, weighing eighteen and three-quarters lbs. measure, about the same as above. Some days after, I shelled the whole together, and had exactly half a bushel—this is producing at the rate of 160 bushels of corn to the acre, or 320 bushels of ears; the last is as large an increase as ever I recollect hearing of. From these small experiments, I have ascertained to my satisfaction, that a piece of ground will produce the most corn by planting one grain in a hill; as to the width, I have not got exactly, but I venture to say it should not be more than two feet, nor less than one and a half feet apart. I should take one foot nine inches.

Of ploughing and harrowing corn, I am about to say a word in favor of the harrow, although I know that in these days it amounts

almost to heresy. In the first place, I allow that where people do but little work in the corn, they had better do it with the plough; but to put it in good order, I think it can be done better with both, than with either plough or harrow separately, for you may harrow corn before it will answer to plough; then every time after ploughing, let it lay a few days, and go through it once in a row with the harrow; it will then keep clean longer, and be in better order to plough again. In my opinion, people in general ought to plough as much as they do, and make use of the harrow some too, and their corn ground would be in better order than it commonly is.

STEAM-DIGGING MACHINE.—M. Wronski, a celebrated mathematician at Paris, has, according to the Paris papers, discovered a new system of applying steam to carriages, digging machines, hoes, picks, ploughs, &c. so superior to any thing hitherto known, that a French company has bought his patent for four millions of francs.—[Le Temps.]

PEAS.—Farmers of Great Britain have ascertained, by many years' experience, that no other fallow crops leave the ground in a situation so favorable for a crop of wheat, as leguminous vegetables. At the head of this class may be ranked the pea. "To fallow, and at the same time, to have a shading and ameliorating mild crop growing on the fallow," is the system pursued by the best farmers of that country.

Lime in the soil is considered indispensable to produce this pulse in perfection, and where it does not exist in sufficient quantity, the application of gypsum will be found very beneficial. Nearly all our western lands contain a portion of calcareous matter, which is evidenced by the abundant crops of wheat. As far as my experience goes, no other crop so effectually subdues and pulverizes a heavy clay soil, as peas. On such soil, fall ploughing is necessary. Early in the spring roll and harrow, then sow two and a half to three bushels of peas per acre, and cover with the cultivator. When the crop comes off, the ground will be found remarkably mellow, and once ploughing will put it in fine condition to receive wheat.

By this management, I have raised twenty bushels of peas per acre, and my wheat on the pea ground was the heaviest on my farm. In England it is not uncommon for a large farmer to have 50 acres of peas, and they find them the most valuable crop for several kinds of stock. Some farmers may say they cannot raise Indian corn in England, and are compelled to fatten their swine with peas. To such I would remark, that a bushel of peas is worth more than one of corn, to bring hogs forward early in the season, and is raised with half the labor. I begin to feed my hogs with peas as soon as they are too old for the table, and find that all is greedily devoured but the straw. I never had hogs to thrive so rapidly on any other kind of food. Corn is indispensable in the latter part of the season to give solidity to pork, but if we were to plant less corn, and sow more peas, we should be gainers by the change.

A celebrated writer on agriculture says, "A crop of peas is so far from exhausting the land, that it may be considered as an excellent and ameliorating manure." Another writer says, "Various crops pulverize the soil, and to a great extent prepare it for different crops. Peas, for instance, are peculiarly calculated for preparing the ground for wheat."

The bug (*Bruchus pisi*) punctures the pod when very young, and deposits an egg. Very few crops escape them, except such as are sowed after the 10th of 6th month (June.) It will therefore be best for every farmer to sow a part after that time for seed, or to keep a sufficient quantity over one year. The last method I have found effectual. If, however, the farmer cannot procure seed clear of bugs, let him heat water in a large kettle, and dip the

basket containing the seed into the water when in a boiling state; keep them in *not more than one minute*, then throw them on a floor and strew on plaster.

I have sowed the small yellow pea, and the marrowfat, but if I could obtain them in sufficient quantity, I should much prefer *Bishop's new early dwarf prolific pea*, which I have found in my garden to be the most prolific variety. It seldom attains a height of more than twelve to fourteen inches, and is of fine flavor. When in blossom they present a beautiful appearance.—[Genesee Farmer.]

IMPROVING SEEDS.—I heard him tell Col. Williams that day that he was born on a farm, and lived on one all his life, and that he was then, I think he said, near 80 years of age. I knew him about twenty years before his death, and knew him to be a skilful farmer, and a very industrious man. In his long life he tried a great many experiments in farming and gardening with success. He advanced some new ideas respecting seeds, &c. [See Dr. Darwin's *Phothologia*, Dublin edition, printed in the year 1800, page 410.]

"He believed that no kind of incest would degenerate the breeds of vegetables," &c. And further, "Mr. Cooper was led to his present practice, which he began more than forty years ago, by observing that vegetables of all kinds were very subject to change with respect to the time of their coming to maturity, and other properties, but that the best seeds *never failed* to produce the best plants. Among a great number of experiments he particularly mentions the following :

"About the year 1746, his father procured seeds of the long watery squash, and though they have been used on the farm ever since that time without any change, they are at this time better than they were at first."

"His early peas he procured from London in the year 1756, and though they have been planted on the same place every season, they have been so far from degenerating, that they are preferable to what they were then. The seeds of asparagus he had from New-York, in 1752, and though they have been planted in the same manner, the plants are greatly improved."

P. S.—Joseph Cooper : As some persons may be sceptical, with respect to his seeds not only continuing their good qualities, but increasing in goodness, I will here relate what I saw him practice. He generally sowed every spring from about five to six acres of early peas, and in gathering his peas for sale, he always reserved a number of rows for seed, and he would not permit any one to touch these rows, and he made it a point to gather those first ripe on those rows for his seed peas. The consequence was, that he generally had the earliest peas in the market of Philadelphia, and mostly got for the first gathered a dollar and a half for a peck, and by the time they came down to two dollars a bushel, his were always disposed of. He never sowed more than one kind.—[Genesee Farmer.]

THE LOCUSTS.—It appears that the seventeen-year Locusts (*Vicada septendecim*) are to pay their periodical visit this year. It has been ascertained that the insect appears, periodically, once in seventeen years, and in the spring of the year. They were observed in this country at the stated intervals from 1749 to 1817. Apprehensions are expressed that they will commit great ravages, and it is asserted that more than once, when they

visited some parts of New England, they not only ate up all the grass in the fields, but actually attacked *clothing* and *fences* to appease their insatiable hunger. But the *Encyclopaedia Americana* informs us that they are in no way injurious to vegetation, except from the damage done by the female in depositing her eggs—while the insect is itself the favorite food of various animals, and in this way may be turned to good account. Hogs devour them eagerly, and some of the larger birds are fond of them. The Indians consider them a delicate food when fried. In New-Jersey they have been converted into soap.

In various parts of the world, from time immemorial, these insects have been used as food for human beings. For this purpose, in some countries, they are caught in nets, and when a sufficient number is procured, they are roasted over a slow fire, in an earthen vessel, till the wings and legs drop from them; when thus prepared they are said to taste like craw-fish. The locust constituted a common food among the Jews, and Moses (Levit. xi. v. 22) has specified the different kinds which they were permitted to eat.

It has been disputed, however, whether the food of John the Baptist, in the wilderness, was the insect locust, or a fruit of the same name.

TOBACCO FOR TICKS.—We should suppose the tobacco wash, in the following recommendation from the N. E. Farmer, should also be applied at the time of shearing :

Boil a small quantity of tobacco, perhaps what grows on one good thrifty stalk would be enough for half a dozen sheep, in so much water, as when it is sufficiently boiled, there shall be two or three gallons of the liquor; let it become sufficiently cool, then open the wool along the centre of the neck and back of the sheep, and with a bunch of tow or some other spongy substance put on the decoction until the skin becomes thoroughly moistened therewith, and in a short time the ticks will all be destroyed, and the sheep instead of pulling out and wasting their wool by fruitless exertions of self-defence, will become easy and contented, and suffer their fleece to remain to be taken off by the shears.

For many years I have taken this method with my sheep, just before the time of their lambing, and have always found it to have the desired effect. I very much dislike the foolish practices of smoking, chewing, and snuffing this poisonous weed, at least when no better reason can be given for so doing than fashion or the force of habit; yet I annually raise a few plants for the benefit of my sheep, and would recommend to every one who keeps these useful animals to do the same.

DALE'S HYBRID TURNIP.—Mr. Allatt, sen., has a moderate breadth of that new and valuable field turnip, Dale's hybrid, the bulb of which is said to be as solid and nourishing as a Swedish turnip, and as tender as an early Dutch. It is also said to be not in the least degree injured by the frost, and it is thought that it will prove to be invaluable for field produce in wet soils. The seed of this variety is also for Mr. Ronalds; and, if a fourth part of what we heard of this turnip be true, it must be a prize of immense value to the farmer.—[Loudon's Magazine.]

[The seeds of the above can be had of the seedsmen in New-York.]

TAR ON SHEEP.—If you are apprehensive lest foxes should take unwarrantable liberties with your lambs and geese, you will rub a little tar on their necks, and it is said neither foxes nor wolves will attack them, as those marauders cannot endure the odor of tar.]

NEW-YORK AMERICAN.

APRIL 26—MAY 2, 1834.

LITERARY NOTICES.

No. XXI.

Galena, Upper Mississippi, Feb. 1.

A furious squall of snow, which would have rendered it impossible to keep a given road in crossing the prairie, subsided before night fall, on the day that I left Boyd's Grove, bound for the Upper Mississippi; and as the calm clear sky of evening succeeded, our sleigh glided over the open plain at a rate which soon made the houses behind us disappear in the distance; while four fleet horses, with a good driver, and but one passenger, swiftly accomplished the short stage of 12 miles, and brought us to the room where we were to pass the night. The intervening prairie, for the first six miles, was high and level, with not a stick of timber—one broad snow covered plain, where you could see the dark figure of a wolf for miles off, as it stood in relief against the white unbroken surface. A prospect more bleak and lonely, when night is closing in, and you press toward some distant grove, whose tree tops cannot yet be discovered above the monotonous plains, is inconceivable. Presently, however, you come to a break in the prairie; a slight descent next shelters you somewhat from the wind, and now you can discover a wood, which hitherto had appeared many miles off—or, perhaps, was not perceptible at all—that has pushed a scattered clump of trees here and there, like an advanced guard under cover of the ravine. You come to the brink of another platform, and you are on the edge of a grove, while for 20 miles ahead the eye ranges over what looks like a shallow basin of immense extent, broken occasionally by dusky masses, which seem rather to repose upon than to spring out of its surface: such was the view in advance, from a point about six miles from Boyd's Grove. The elevation, from which we descended, was not more than 20 feet, and it commanded a prospect of as many miles. It was like looking from the edge of a snow covered desert upon a frozen lake, with its isles, headlands and scattered rocks, and its waters riveted as fast as they. The rosy rays of the setting sun still lingered over the scene, as on one they longed to set free from the icy chains which bound it, while the calm pale moon grew momentarily more bright, as if her cold beams borrowed lustre from the extent of pure white surface over which they shone. A single room, miserably built of logs, the interstices of which were so unskillfully filled up with mud, that I could hear the night wind whistling thro' them as we drove up to the door—was to be our lodging for the night. A couple of rifles with a powder horn, and a pair of Indian blankets lay without, and two painted Potawatomies were crouched on the hearth, as I entered the cabin. One of them, a small but elegantly formed youth of twenty, sprang at once to his feet, while the other, a dark ill-looking negro-faced fellow, retained his squatting posture.—They were dressed in complete suits of leather, both having their ears bored in several places, with long drops of silver pendant in thick bunches therefrom, while broad plates suspended over their chests, with armlets of the same metal, made quite a rich display. Their dress was, however, the only point in which they resembled each other; and the aquiline nose, keen eyes, and beautifully arched brows of the one, contrasted as strongly with the heavy inexpressive look and thick lips of the other, as did the closely fitting hunting frock of the first, which a black belt, sown thick with studs of brass, secured to his erect form, with the loose shirt that crumpled around the crouching person of the other. A thin featured gentleman, with long sandy hair, flowing from under a cap of wolf-skin, and dressed in a bright green capote with an orange colored sash—sat smoking a pipe on the other side of the fire place, while one foot dangled from the bed on which he had placed himself, and another, rested on a Spanish saddle, whose holsters were bro't so near to the fire as it lay thus carelessly thrown in a corner, that the brazen butts of a pair of heavy pistols were continually exposed to view by the flickering light. A pale, sickly-looking woman, with an infant in her arms, and two small children clinging

around her lap, sat in the centre, and completed the group. Her husband, and another hanger-on of the establishment, had stepped out to look after our horses, as we drove up to the door. The apartment, which was not more than twenty-five feet square, was cumbered up with four beds, and when I thought how many there were to occupy them, and observed a thin cotton curtain flapping against a wide unglazed opening, which formed the only window of this forlorn chamber, I thought that the prospect of comfortable accommodation for the night was anything but promising. Presently, however, the landlord entered with an armful of bur-oak and split hickory, which crackled and sputtered at a rate that made the Indians withdraw from the ashes. The good woman placed her child in a sort of cradle, and bestirred herself with activity and good-humor in getting supper; while the frontiers-man, knocking the ashes from his tomahawk pipe, passed me a flask of Ohio whiskey, which, after my cold ride, had all the virtue of Monongahela. Some coarse fried pork with a bowl of stewed hominy, hot rolls, and wild honey, did not then come amiss, especially when backed by a cup of capital coffee from the lower country: though the right good-will with which we all bent to this important business of eating did not prevent me from noticing the Frenchman-like particularity with which the Indians eat from but one dish at a time, though tasting every thing upon the table.

The best looking of the two, though daubed with paint to a degree that made him look perfectly savage, was almost the only Indian I had found yet who could talk English at all; and he seemed both amused and interested while I read over to him a slight vocabulary of words in his own language, as I had taken down the terms occasionally in my pocket-book, and was evidently gratified when I added to their number from his lips. He spoke the language, indeed, with a clearness and distinctness of enunciation such as I have only heard before from a female tongue; and the words thus pronounced had a delicacy and music in their sound entirely wanting in the usual slovenly utterance of Indians. You would have been struck, too, in the midst of our philological task, to see the grim-looking savage bend over and rock the cradle, as the shivering infant would commence crying behind us. In this way the evening passed rapidly enough; and then the good dame, with her husband and children, taking one bed, the green rider and I took each other, while the stage driver and remaining white man shared the fourth together. The Indians brought in their guns and blankets from without, and making a mattress of my buffalo skin, they placed their feet to the fire, and after a chirping conversation of a few minutes beneath their woollen togery, sunk to slumber.

The moon was still shining brightly above, as I sallied out an hour before dawn to wash in the snow, and finish in the open air the toilet commenced in the crowded shanty. Our sleigh, a low clumsy pine box on a pair of ox runners, was soon after the door, and covering up my extremities as well as I could in the wild-hay which filled the bottom, (for the morning was intensely cold,) I wound my fur robe around my head to keep my face from freezing, and soon found myself gliding at a prodigious rate over the smooth prairie. The sun was several hours high when we struck a fine grove of timber, through which the small but rapid river Huron takes its way, and thrashing through the wintry stream, we merely paused long enough at a shanty on the opposite side to adjust some of our harness which was broken while fording the torrent, and reached a comfortable log cabin, in which we breakfasted at noon. There was an Indian encampment within gun-shot of the house, and seeing a melancholy looking squaw with an infant in her arms, hanging about the farm house, I left my landlady turning some venison cutlets and grilled grouse, to see how the aborigines fared in this cold weather. A pretty Indian girl of fourteen, driving a couple of half starved ponies, indicated the camp of her friends. They proved to be a very inferior band, having but two hunters, and those inefficient looking fellows to a score of women and children. Sheer necessity had compelled them to encamp near the settlement; and a more squalid, miserable looking set of creatures I never beheld. The chief of the party, contrary to the usual Indian custom, had let his beard grow till it stood out in small tufts from every part of his sinister-looking smoke-dried face; and the thong of leather which sustained his scalping knife, seemed to answer the double purpose of binding the fragments of his greasy and tattered capote to his body, and of keeping the loosely

hung component parts of the body itself together.—A bluff faced English-looking white youth of 18, with a shock head of black curly hair, and wearing a hunting frock of some coarse material striped like a bed-ticking, secured to his body with a red belt; from which a hatchet was suspended, was assisting him splicing a refractory pony. The young gentleman, as I afterwards learnt, belonged to the tribe—some runaway apprentice, perhaps, who thought he was playing Rolla. The rest of the mongrel concern dodged like beavers beneath the mats of their smoky wigwams as I approached their common fire, to warm myself.

Returning to the farm-house, I found a little girl playing on the floor with several strings of beads, which the squaw first mentioned had just parted with to purchase food for her starving infant. The family, however, though they suffered the child to retain the ornaments, supplied the poor woman with food and comforts to ten times their value. The Indian mother, I was told, though nearly fainting from exhaustion, asked for nothing except for her child, and seemed deeply affected when after, by signs, apprising the whites of her situation, she obtained the required sustenance.

Upon emerging from this grove and getting out once more on the prairie, I could distinguish a solitary horseman followed by his dog, coming towards us, at least a mile off; and remarking that as they approached us the distance between the man and his canine companion increased at a very unusual rate, I was induced to scan the appearance of the latter as he passed within rifle shot of our sleigh after his master was out of hail. It proved to be an enormous wolf; and we actually tracked the fellow for eighteen miles, to a thick brake on the banks of a frozen stream, from which he had first leaped into the traveller's tracks, and steadily followed on in his horse's steps to the point where he passed us. The cowardly rascal being hard pushed with hunger, though he could have no idea of attacking the traveller by himself, had probably just trudged along mile after mile in the hope of raising a *posse comitatus* of his long haired brethren along the road, or of availing himself after nightfall of some accident that might overtake the horseman, who was so unconscious of his volunteer escort. Had the man but turned his horse and run the wolf a hundred yards, he would have rid himself of a companion that circumstances might possibly have rendered inconvenient.

It was late in the afternoon when we reached the banks of Rock river, whose broad and limpid current was of course congealed by the rigors of winter. The enterprising and intelligent settler from the city of New York, who, though repeatedly driven off by the Indians, has been for fifteen years established at "Dixon's ferry," detained me some time at dinner in expatiating upon the healthfulness of the adjacent country, and the abundance of fish and game of all kinds which frequent the waters of the fine stream upon which he resides. The river, which is navigable for boats of fifty tons nearly a hundred miles above the Mississippi, flows through a gentle valley with the prairie sloping to its edge upon either side, except when a group of bold rocks forming a cove, whose entrance has a perfect gothic arch of some twenty feet high, rear their sudden pinnacles above the farther bank. The smoothness of the adjacent ground is broken here and there by an open grove, while an occasional thicket, with one or two rankly overgrown alluvial islands in the river, must constitute a beautiful landscape in summer. This spot was Gen. Atkinson's head quarters during the Black Hawk war, and may be considered about the centre of operations during the recent Indian difficulties. A sharp ride of twelve miles over the open prairie brought us after dark to Buffalo Grove, the scene of some of the most melancholy incidents that attended those commotions. A party of four or five mounted travellers, bound from Galena for the lower country, were obliged to pass the Grove on their route just after the difficulties with the Indians commenced. They had reached the edge of the Grove, when one of the number conceiving that it might harbor an ambush, suggested the expediency of deviating from the usual path, and taking a somewhat circuitous course. He was opposed, however, by his companions; and one of their number taunting him with an unnecessary regard to prudence, spurred his horse and advanced first into the fatal wood. His horse could have made but a few bounds—I have seen his grave just within the edge of the grove—when an Indian bullet brought him to the ground, and his companions wheeling on their track, for the present escaped further mischief. On arriving at Dixon's Ferry, it was proposed the next day to return and bury the poor fellow, who had thus

fallen a victim to his own rashness. Eight persons, among whom was Mr. Savary, the Indian agent for the hostile tribes, volunteered upon the kind office, which was performed without molestation, and the agent, with the greater part of those present, then kept on his way to the upper country; the rest, among whom was my informant, returning to their home on Rock river. A confused account is given of what followed, as four of Mr. Savary's party, including himself, were slain in another ambush, and those who escaped by the speed of their horses, had but little opportunity, after the first surprise, to observe how their companions met their fate. It is agreed, however, that the unfortunate agent, turning in his saddle after the first fire, was shot in the act of appealing to the Indians as their friend and "father"—the reply being a disclaimer of his official character, and the words "we have no longer any white father," accompanying the discharge of the piece whose bullet pierced his brain. The head of the ill-fated gentleman carried off by the Indians, is said to have been afterwards recognized and recovered from the savage band. The Indians fired the house of the settler (an old New Yorker) at Buffalo Grove, and the charred timbers and lonely door-posts contrasted strangely, as I viewed them in passing, by the morning sun, with the neat new log dwelling a few paces off, in which I had most comfortably spent the night before. But these traces of savage war soon, by their frequency, become familiar. The aspect of the country changes considerably soon after passing Rock River. The prairie is frequently broken by sudden ravines. The number of groves increases. The streams run more rapidly over their pebbly beds, and huge masses of crumbling rock rise like the ruined walls of old castles along the mimic vales through which they take their way. In those secluded dells a number of settlers had ventured to fix themselves along the Galena route; and though many have now returned to their precarious homes, the humble dwellings and various little improvements of others remain as they left them when fleeing with their families before the dreaded savage. With the appearance of one of these cottages I was struck particularly. The roots of a large tree, whose branches brushed a wall of rock opposite to it, had caused a sparkling brook to describe the form of a horse-shoe in winding through a small alluvial bottom, while a row of wild plumb-trees across the little peninsula thus formed, divided it from the rest of the valley, and just left room enough for the cabin of the settler with a few acres for a garden around his door. A few acres more along the margin of the brook supplies another enclosure; and the fences and fixtures exhibited a degree of care and arrangement by no means common in this region. But the exiled owner had never returned to his tasteful though humble home. The open door swung loose upon a single hinge. The snow lay far within the threshold, and a solitary raven perched upon the roof, seemed to consider the abode of desolation so much his own that, heedless of a flock of his brothers which rose from some carion near, as we approached the place, he only moved sideways along the rafter and gave a solitary croak as we drove by.

Approaching Galena, the country becomes still more broken and rocky, until at last a few short hills, here called "knobs," indicated our approach to Fever River; while the river itself at once became visible when we had wound round the last of these, and got among the broken ravines that seam the declivity, sloping down for nearly a mile to its margin. Short sudden hills, the bluffs of the prairie beyond, partly wooded and partly faced with rock, formed the opposite shore, while the town of Galena lay scattered along their broken outline, as if some giant had chucked a handful of houses against the hill side, and the slimy mud (for which the streets of Galena are celebrated) had caused them to stick there. We crossed on the ice, and I am now once more in a frame house.

H.

POEMS, BY CYNTHIA TAGGART, Providence, R. I.—CRANSTON & HAMMOND.—This is a remarkable volume. Many of our readers will, doubtless, remember an *Ode to the Poppy*, published some months ago in this paper, in introducing which, the fact was stated, that the writer was, and had for years, been the helpless tenant of a sick bed. We here have a collection of poems from the same pen, and written under the same circumstances of suffering and discouragement. Yet, the mind—the immortal mind—triumphs over the sorrows of poverty, the bitterness

of affliction, and the tortures of disease, and soars on Empyrean wings into the high regions of poetry. There is genius, grace, pathos, and, above all, a resigned and quiet spirit, and unwavering Christian hope, pervading this little and well printed volume, that must commend it alike to the acceptance of virtue, and the approbation of taste. A more melancholy story than that connected with the history of this young person, can hardly be imagined. The father, a revolutionary officer, feeble, broken in constitution, and poor, wore out the latter end of his days in anxious efforts to obtain the pension due to the services of his youth. Just as success crowned these efforts, he died. His wife—(we take all these particulars from an affecting letter of the Reverend B. C. Cutler, prefixed to the poems)—was a confirmed invalid, and could only, with difficulty, discharge the ordinary domestic duties. There were three daughters, of whom one was bereft of reason, and the other two were martyrs to disease, the one having been two years, the other seven years confined to her bed.

We will give Mr. Cutler's own words, in telling the rest:—

The father, the mother, and one of the daughters appeared cheerful and resigned; but the other daughter seemed greatly depressed. She had been now seven years on a bed of exquisite pain. Her hair had turned gray by the unmitigated anguish of her head. Sleep had long deserted her, and she seemed to have been in the act of martyrdom for years.—Confined for so long a time to her bed, incapable of occupation, or amusement, at times, even of devotion, she struggled hard to say "Thy will be done." She however appeared to confide in God, but was destitute of spiritual consolation.

In this state, and in this place, she composed, from time to time, the Poems which are about to be published. They are like the lamentations of Jeremiah, or, more truly, like the complainings of Job; and may serve to make both the prosperous and the afflicted more grateful, and submissive to the allotments of Divine Providence.

The Poems were composed and committed to memory, chiefly in the night; and were committed to writing by the father and others, at their leisure.

A little garden before her window, the sun which rose and set, the winds of heaven which shook her cottage, and the ocean, whose "billowy anthem" was ever chanting at the foot of the hill, afforded the only variety to her thoughts. From these and from her bodily sufferings she draws subjects and illustrations for her Muse. She remains to this day sunk on a bed of anguish, calm and patient.

It is hoped by the publication of these poems to add something to the narrow means of this afflicted, but unrepining household, and to pay at the same time a merited tribute to genius.

We annex some lines, which will bear out, we think, all we have said:—

THE VOICE OF THE WIND.—1839.
But hark! O hark! the mighty Harp,
Devoid of frame or strings,
Touched by a hand omnipotent,
With tones celestial rings;
With awful notes now swelling high,
Bearing mysterious power,
Then sinking soft with gentle voice,
Breathing of mercy's dower.
O hark again! the soothing sound
Of sympathy is near;
Enchanting tones aerial
Burst on the captive ear.
Ah! yes, and now the pitying tears
Fast falling bathe the ground;
Weeping the wo, the grief, the fears
That wretchedness surround.
Then cease my soul, no more repine;
The healing mercy flows;
Blest sympathy, with voice benign,
Her cordial gifts bestows.

OBSERVATIONS ON THE EDUCATION OF THE DEAF AND DUMB: Re-printed from the *North American Review*. Boston, 1834. pp. 80.

A correspondent, who takes great interest in the subject treated in this pamphlet, asks a place, which we willingly give, for the following notice of it:

"It is a re-print of the article on Deaf and Dumb Instruction, in the April number of the *North American Review*, with the addition of about thirty pages,

which the limit assigned to matter in that periodical made it necessary for the author to suppress.

It is understood to be from the pen of Professor Barnard, of the New York Institution for the Deaf and Dumb. Those who read it will have a better recommendation in the article itself, than any which we should be able to give them: and if we abstain from expressing our high sense of its merit, to those who will not peruse it, it is only because we have not the space to prove our assertions. We may remark, however, that it is altogether superior to any thing on the subject which has hitherto appeared in the United States.

The thirty pages which now make their first appearance in this pamphlet, are of a character more particularly to interest the general reader. From them we make a few quotations. The first is respecting personal signs:

"Signs denoting persons are usually derived from trifling peculiarities of physical conformation, of manner or of dress, which arrest the attention of the deaf and dumb at first sight. These peculiarities may be, barely transient, but the sign is retained after the circumstance in which it originated has passed away. The deaf and dumb are particularly expert in detecting distinctive circumstances which would escape ordinary observation. When President Monroe visited the Asylum at Hartford, he wore a cocked hat, of the old school; and it was by reference to this article of dress, that he was ever after designated among the pupils. The same sign has since become generalised; and it is now applied indiscriminately to all Presidents, whether their functions be political or otherwise. Dr. Spurzheim, on the occasion of a similar visit, in taking a survey of the pupils assembled for prayers, placed his hand for a moment over his eyes to screen them from the light. The imitation of this action afterwards constituted his distinctive sign."

The following facts with respect to the deaf, dumb, and blind girl, at the American Asylum, who attracted so much attention a few years since, may, perhaps, interest some of our readers:

"Julia Brace, at present in the Asylum at Hartford, was deprived at once of hearing and of sight, at the early age of four years. She bore her calamity, at first, with little resignation; but her disposition, at length, became remarkably serene. The accomplished pen of our American Hemans, Mrs. S. Journeay, an early benefactress of this unfortunate female, has already given her story to the public; to the correctness of which we take pleasure in here according our testimony. We do this the rather, that since the publication of that article, many persons, induced by its statements to visit Julia, have found in her a less interesting object than they had anticipated. This poor girl is not now, in fact, what she was. It is painful to observe, that, as, her monotonous years roll away, the same docility, the same uniform placidity of temper, the same willingness to meet the advances of strangers, and the same readiness to exhibit proofs of her manual dexterity, and of her wonderful sagacity in distinguishing individuals, and the articles belonging to them, are not always apparent. But in Julia Brace, notwithstanding her absolute exclusion from society, the existence of the moral sense, is strikingly manifest. With her the right of property is sacred.—An article committed to her for examination or for keeping, she will deliver to no individual but the owner, to whom she will deliver it without hesitation, and with an appearance of satisfaction. Should the owner neglect to receive it, she will even force it upon him, and having satisfied herself that it is once in his hand, will immediately relinquish her hold. She selects her own articles of clothing from among those of all the female pupils, and never, in any instance, has been known to appropriate the property of another."

Although we are compelled with these two extracts to finish our notice of this article, we must not omit to mention that its general character is that of a labored disquisition, and that the anecdotes which we have quoted, and others similar to them, are introduced only by way of illustration. The author appears to understand his subject, and is intent on penetrating fundamental principles, instead of merely skimming the surface. The whole paper seems calculated to do much towards rescuing the subject of deaf and dumb instruction from the comparatively

low estimate formed of it by the public, and towards giving it a consideration equal to that with which the subject is viewed in France.

HARPER'S FAMILY LIBRARY—Vols. LXVI., LXVII., LXVIII., LXIX.—New-York, HARPER & BROTHERS.—It is a source of real gratification to us, as we are sure it must be to the friends of knowledge and good letters throughout our country, that amidst the interruptions and disasters which have more or less paralyzed all other trades, these enterprising publishers, are enabled to continue their career of useful activity.

Of the four volumes before us, the first two are a continuation, or second series, by ALLAN CUNNINGHAM, of the Lives of Eminent Painters; and those who read the first series with pleasure—as from the taste with which the general subject is handled, and the agreeable style of the writer must have been the universal result—will find the continuation not less attractive. From the life of Copley, our American artist, we make the following extract, both for the sake of the description given of the picture—one that the present relation of our Supreme Executive with the Senate of the United States renders, perhaps, somewhat admonitory—and for the very calculating and business-like letter of Earl Ferrers:

The mind of Copley teemed with large pictures: he had hardly failed in his Irish subject before he resolved to try an English one, viz. the Arrest of the Five Members of the Commons by Charles the First. Malone, an indefatigable friend, supplied the historical information, and gave a list of the chief men whose faces ought to be introduced. It was the good fortune of the eminent men of those days, both Cavaliers and Roundheads, that their portraits had chiefly been taken by the inimitable Vandyke: all that had to be done, therefore, was to collect those heads, and paint his picture from them. They were, it is true, scattered east, west, north, and south; but no sooner was Copley's undertaking publicly announced, than pictures came from all quarters; and it is a proof of his name and fame that such treasures were placed in his hands with the most unlimited confidence. The labor which this picture required must have been immense; besides the grouping, the proper distribution of parts, and the passion and varied feelings of the scene, he had some fifty-eight likenesses to make of a size corresponding with his design. The point of time chosen is when the King having demanded if Hampden, Pym, Hollis, Hazelrig, and Strode were present, Lenthall, the Speaker, replies,—"I have, Sir, neither eyes to see, nor tongue to speak, in this place, but as the House is pleased to direct me." The scene is one of deep interest, and the artist has handled it with considerable skill and knowledge. The head I like best is the dark and enthusiastic Sir Harry Vane: the Cromwell is comparatively a failure. Many have left their seats dismayed; while fear, and anger, and indignation have thrown the whole into natural groupings: the picture was much talked of when it appeared, and deserves to be remembered still.

There has always been a difficulty in disposing of historical pictures in this country; and no one was doomed to experience it more than Copley: no customer made his appearance for Charles and the impeached Members. I know not whether the following remarkable letter, from a wealthy peer, arose from his own inquiries, or from an offer made by the artist; the letter, however, is genuine, and proves that they err, who imagine that the spirit of bargaining is confined to mercantile men:—

"Lord Ferrers's compliments to Mr. Copley; he cannot form any judgment of the picture; but, as money is scarce, and any one may make eight per cent. of their money in the funds, and particularly in navy bills, and there is so much gaming, he hopes he'll excuse his valuing his picture in conformity to the times, and not think he depreciates in the least from Mr. Copeley's just merit; but if he reckons fifty-seven figures, there are not above one-third that are capital, but are only heads or a little more; and therefore he thinks, according to the present times, if he gets nine hundred pounds for the picture with the frame, after the three other figures are put in, and it is completely finished, and he has the power of taking a copy, it is pretty near the value: that is what very few people can afford to give for a picture. However, if Mr. Copley would undertake to do a family piece for him with about six figures, about the size of the picture he has of Mr. Wright's, with frame and all, he would

agree to give him a thousand guineas for the two pictures. But he imagines the emperor or some of the royal family may give him more, perhaps a great deal more, which he wishes they may, and thinks he well deserves; but if he can't make a better bargain, Lord Ferrers will stand to what he says, and give him six months to consider of it, and will not take it amiss if he sells it for ever so little more than he has mentioned, as he has stretched to the utmost of his purse, though he does not think he has come near up to Mr. Copley's merit.

"Upper Seymour Street, 5th June, 1791."

The two other volumes present us with a *History of Arabia*, by ANDREW CRICHTON.

Considering how much of real and substantial knowledge, and how much of delightful romance we owe to Arabian learning and Arabian fancy, and how great the influence which was exercised even in western Europe by the warlike race that for a while held dominion from the Pillars of Hercules to the Wall of China, we are less conversant with the history of their country, than with the history of any other. Mr. Crichton in these two volumes, has condensed a vast mass of information, rectifying by consulting the records of modern travellers and investigators—especially among the latter the exact and indefatigable Niebuhr—many, erroneous crudities and prejudices.

We annex as a fair specimen of the work, a notice of the taste for, and rapid growth of, literature, science and the arts, under the Abassides:

It was at a period when ignorance and barbarism overspread every part of the Western World, that literature and philosophy found an asylum in the schools of the Saracens. Unlike the Goths and Huns, they became the instructors and enlighteners of the countries they had conquered. Their stern fanaticism yielded to the mild influence of letters; and, by a singular anomaly in the history of nations, Europe became indebted to the implacable enemies of her religion and her liberties for her most valuable lessons in science and the arts. In the preceding chapters of this work we have beheld the disciples of Mohammed in the character of warriors and conquerors. Their success in arms had been enough to satiate even the most unmeasured ambition. But, great and splendid as were the events we have just detailed, we shall turn with pleasure from fields of blood, from scenes of misery and vice, to contemplate the more gentle and useful progress of the Arabs in the cultivation of learning. The first Mussulmans knew, or at least esteemed, no other book than the Koran. But this aversion to intellectual pursuits gradually relaxed, in proportion as their faith and their empire extended. The possession of those happy countries, so long the seats of ancient taste and splendor, naturally introduced among them a spirit of refinement; and here their career was as rapid and surprising as it had been in the field. The literature of Greece, such as it was in the days of Pericles, required the slow growth of nearly eight centuries of progressive cultivation. The same period elapsed between the foundation of Rome and the age of Augustus. In France, the reign of Louis XIV., the brilliant era of wit and genius, was 1200 years subsequent to that of Clovis. But among the Saracens, such was their enthusiasm for learning, that little more than a single century elapsed from the period of their deepest barbarism to the universal diffusion of science over the vast extent of their dominions. It was in the year 641 that Omar committed the Alexandrian library to the flames, and in 750 the house of Abbas, the munificent patrons of letters, mounted the throne.

Under the first of the Ommiadian caliphs, the genius of Greece had begun to obtain an influence over the Arabs. But it was not till the great and final division of the empire—till Bagdad arose, a fair and splendid city—that the golden age of Arabian literature commenced in the East, and the Muses were courted from their hallowed retreats beyond the Bosphorus, to expiate the guilt of conquest, and illustrate the fame of the Abbasides. Almousier, successful in his domestic wars, turned his thoughts to the acquisition of science. Accident brought him acquainted with a Greek physician, named George, who was invited to court to prescribe for the removal of a temporary indigestion. To him the Saracens were indebted for the introduction of medicine. The famous Haroun al Raschid has acquired a splendid name as the encourager

of letters. He was fond of poetry and music, and himself considerably skilled in these divine arts. Volumes have been written on the learning of the Moslem empire during this caliph's reign. Whenever he undertook a journey, or a pilgrimage, he carried with him a retinue of a hundred learned men. The Arabs were deeply indebted to him for their rapid progress in education, for he issued a law that a school should be attached to every mosque erected within his dominions. With a toleration superior to the fanaticism of his creed, he did not despise the knowledge which the believers of another faith possessed. The head of his schools, and the chief director of academical studies in his empire, was a Nestorian Christian of Damascus, of the name of John ibn Messue. His generous example was imitated by his successors; and in a short time the sciences that were cultivated in the capital were diffused to the distant extremities of the caliphate.

But the Augustus of Arabian literature was Almousier, whose attention from his youth had been chiefly engrossed with books and study. Even in his father's lifetime, and during his journey to Khorasan, of which he was appointed governor, he had selected for his companions the most eminent scholars among the Greeks, Persians, and Chaldeans. His accession to the throne did not abate his ardor for knowledge. Bagdad became the resort of poets, philosophers and mathematicians, from every country and of every creed. His ambassadors and agents in Armenia, Syria and Egypt were ordered to collect the most important books that could be discovered. The literary relics of the conquered provinces, which his governors amassed with infinite care, were brought to the foot of the throne as the most precious tribute he could demand. Hundreds of camels might be seen entering Bagdad loaded with volumes of Greek, Hebrew and Persian literature: and such of them as were thought to be adapted to the purposes of instruction, were at the royal command translated by the most skilful interpreters into the Arabic language, that all classes might read and understand them.—Masters, instructors, translators, and commentators formed the court of Bagdad, which appeared rather to be a learned academy than the capital of a luxurious and warlike government. Aware of the vast treasures that were deposited in the libraries of Constantinople, Almousier, in concluding a treaty of peace with the Grecian Emperor, Michael III., stipulated, as one of the conditions, that a collection of rare and valuable authors should be delivered up to him.—These were immediately subjected to the process of translation; but it must be recorded with regret, that, through an ill-judged partiality for his native tongue, he gave orders that after the Arabic versions were finished, the original manuscripts should be burned.

The Caliph Vathek not only admired and countenanced literature and the sciences, but was himself a proficient in some of them, especially poetry and music. He was particularly addicted to astrology; and having conferred with some of his learned fraternity in his last illness, they assured him, on consulting his horoscope, that his reign was yet to endure fifty years. His death in ten days falsified this prediction, and ruined the credit of Hassan ibn Sohal. Abu Masher, an eminent astrologer, flourished in the reign of Mostein; but his talents received sorry encouragement; for that prince ordered him to be severely whipped, because an event which he had foretold actually came to pass.

Long after the power of the Abbassides had dwindled into a mere pageant of state, they affected to patronize and cultivate learning. Many distinguished men in almost every science illustrated this period of Saracen history; but the capital of the muses in the East had seen innumerable rivals spring up in other parts of the empire. The last prince that shed a ray of departing glory on his race was the Caliph Mostanzer, who adorned Bagdad by the celebrated college that bore his name. According to oriental historians, this edifice had no equal in the Moslem world, whether we consider the beauty and elegance of the building, the number of students it contained, or the splendid revenues assigned it by its founder. Each of the four chief sects of the Sonnites had its appointed professor, with a monthly salary and a maintenance from the royal exchequer. Every student had daily a very handsome allowance of provisions of all kinds. There were baths set apart for their use, and a physician employed to attend them at the caliph's expense.

STORIES OF POLAND; by ROBIN CAREY. Boston: CLAPP & BROADS.—This is a well-timed and instructive little book, intended to interest children in the fate and history of unhappy Poland. The stories

are well told, and there are a great many pictures, moreover.

CELEBRATED SPEECHES OF CHATHAM, BURKE AND ERSKINE; to which is added the argument of Mr. Macintosh in the case of Peltier; selected by a member of the Philadelphia Bar: 1 vol. 8vo; *Philadelphia, KY & BIDDLE.*—We are glad to see such models presented in so good a form to the youth of our country. We lack taste as orators: we are too redundant—too verbose; apt to overcharge, and above all, to spin out interminably our harangues. Where there is boundless wealth both of knowledge and fancy, as with Mr. Burke, one may endure,—for even then it is a penance,—a book under the name of a speech; but only think of Mr. Benton, of Missouri, inflicting such a punishment on the nation. The volume is well printed; and is, we are glad to learn, to be followed by another, giving speeches of Fox, Pitt, Sheridan, Canning, and Brougham.

NATIONAL CALENDAR AND ANNALS OF THE UNITED STATES, for 1834, by PETER FORCE: *Washington, PISHEY THOMSON.*—To this book we have been indebted for much valuable information, for which erroneously we have given credit from time to time to the *Blue Book*, so often referred to in Congress, and which we confounded with this. Their contents are very similar; and to any one who would know the interior and whole detail of our Government—the number and duty of officers—amount of compensation—and everything that relates to the actual and active machinery of the system, this a most valuable manual—and we recommend it accordingly.

HELEN, A TALE, by MARIA EDGEWORTH; 2 vols.: *Philadelphia, CAREY LEA & BLANCHARD.*—After a long interval we have here a new work from the admirable pen of Miss Edgeworth. Time does not seem to have abated aught of its former spirit.—Helen will be read with avidity—and by those who meditate the moral, as well as enjoy the incidents of such a tale—with certain benefit. It is an illustration throughout of the value and indispensableness of TRUTH, and of the dangers of any concealment of it. The three characters—of Miss Clarendon, who sometimes made truth repulsive—of Lady Cecilia, who could not understand that it was necessary always to adhere to it—and of Helen, who, wherever her own self or own interests were concerned, always told it—though in the affairs of her friend Cecilia, assenting to—not deceit—but concealment—are admirably wrought out—and combined as they are with a good general story of high life, and much—perhaps too much elaborately clever dialogue—constitutes altogether a charming work.

THE HARPERS, we should add, have also just issued this latest work of Miss Edgeworth—in one volume, constituting Vol. X.—of their handsome, uniform, and well executed stereotype edition of the Tales and Novels of Miss Edgeworth.

SUMMARY.

THE FINE ARTS.—In the hope that the sun of May will soon shine upon us, and tempt abroad the lovers of the beautiful in art, we commend to the notice of our readers the exhibition at the Academy of Arts in Barclay street, of Cole's picture of the *Angel appearing to the Shepherds*, and Ball Hughes's group of *Uncle Toby and Widow Wadman*.

The picture is a very striking one, and the subject, difficult as it is, is treated with great skill. In the midst of a fine landscape, constituting of itself an attractive painting, the shepherds are suddenly startled by the appearance of the heavenly messenger and the shining forth of the bright star indicating the spot to which they were directed. Prostrate on the earth, they listen to the glad tidings of a Saviour born unto them and all mankind, and their reverential awe is well contrasted by the unconscious and undisturbed serenity of the dumb flocks around. The star, by

a most happy license, is represented as darting forth its resplendent light in rays that form a cross, and the effect is greatly heightened by its reflection in a transparent sheet of water beneath. Among the minor accessories is that of a snow white lamb in the foreground typifying the spotless birth announced to the Shepherds. The coloring, design, and general effect of the picture strike us as admirable; and the only objection we have to make is one common to all others where spiritual and incorporeal beings are introduced and presented in the substantial form and lineaments of mortals. It shocks the natural sense to see such figures self-supported in air, and robed in drapery of earthly texture.

The group by Ball Hughes, which is in an adjoining apartment, presents Uncle Toby in the sentry box, invaded by the Widow Wadman, complaining of something in her eye, which she is showing to the simple minded and unsuspecting soldier, who looks into it with all his credulous soul—without, indeed, finding there ought that troubled her, but not without the risk of being thereby considerably troubled himself. The whole appearance of the Widow might, in truth, trouble a stoic. We could hardly imagine that so much expression could be thrown into so cold a material. The folds in the robe are almost incredibly natural; and the little foot that is carelessly dropped into view from beneath it, could not be improved. The figure of Uncle Toby strikes us as comparatively too large, and the limbs particularly as too robust for the body.

We wish our Broadway fashionables, of both sexes, would make the Academy a lounge. The position is central; the rooms are well ordered; and the attraction of these two Exhibitions sufficient to invite repeated visits—besides the chance of meeting there “all one's acquaintances.”

LAKE ONTARIO.—The Steamboat United States, Capt. Van De Water, touched at the mouth of the Genesee River, on Wednesday last, with 1000 passengers!

GENESEE RIVER.—The Steamboat Genesee, Capt. Weed, has commenced her trips between Rochester and Genesee. She went from Genesee to Rochester in six hours.

The Sag Harbor Corrector states, that a boat which left that place on Saturday for Three Mile Harbor, having on board John Perry, Collins Miller, Jonathan Miller—Stillman, all of Easthampton, has since been found at sea a wreck, and it is supposed those on board were drowned.

The Cherokee Phoenix of 29th March, is in mourning for the death of the honorable WILLIAM WIRT, whom it denominates “not only the legal and able counsellor of the Cherokees, but likewise their most sincere and faithful friend.”

APPOINTMENTS.—The Globe contains a long list of officers confirmed by the Senate. Most of them are reappointments connected with the Custom House, and the land offices. Among them we remark Aaron Ogden, as Assistant Collector at Jersey City, and in this State Thomas Loomis, Collector at Sackett's Harbor, Jacob Gould at Rochester, Seymour Sewell at Lewistown, Baron S. Doty at Ogdensburg, Jerry Carrier at Cape Vincent, John P. Osborne at Sagg Harbor, David B. McNeil at Pittsburg, George H. McWhorter at Oswego, and Sam Swartwout at New York.

The United States Frigate Brandywine sailed yesterday for Norfolk.

OFFICERS.—David Deacon, Captain.—Lieutenants, William Inman, Henry Bruce, J. G. Van Brunt, Edward S. Johnson, John H. Smith, H. H. Hobbs.—A. A. Adee, Surgeon.—Samuel F. Hazard Sailing Master.—J. R. Lambert, Chaplain.—A. G. Gambrill, Assistant Surgeon.—Passed Midshipmen, John Weems, William C. Spencer, E. M. Yard, Charles Green, Luther Stoddard, William B. Ludlow, J. S. Patterson, C. H. Piper, C. Valentine, L. W. Wilkins, Daniel McKey, C. R. P. Rodgers, Francis Winslow, J. S. Biddle, M. D. E. Watson, R. R. Nicholls, Jas. W. Reed, S. Pierce, Francis Loury, Joseph Norville.—Boys acting as Midshipmen, R. B. Biel, John Dennis, Howard Tillotson.—John Peira, Jr. Schoolmaster.—Charles Boardman Carpenter.—J. R. Childs, Sailmaker.—Daniel James Gunner.—D. McComb, Purser's Steward.—James C. Low, Master's Mate.—Thomas C. Ryall, Captain's Clerk.

Ship Brandywine, Jos. H. Terry, Purser.

The Opera at Philadelphia seems more attractive to the ladies than to the gentlemen: the latter of whom, according to the Philadelphia papers, not even music and beauty combined can draw to the theatre.

NEW BANKS.—Seven bills have passed both houses of the Legislature for the incorporation of Banks, and one increasing the capital stock of an existing bank, as follows:

	CAPITAL.
Commercial Bank, Buffalo	\$400,000
Sackets-Harbor Bank, Sackets-Harbor	200,000
Commercial Bank, New York	500,000
Orleans County Bank, Albion	200,000
Albany City Bank, Albany	500,000
Farmers' & Manufacturers' Bank, Po'keepsie	300,000
Highland Bank, Newburgh	200,000
Phoenix Bank, New York [increased]	1,000,000

—[Alb. Argus.] \$3,300,000

General E. Hawkins, of Union District, S. C., died very suddenly on the 16th inst.

[From the *Journal of Commerce.*]

PHOENIX BUILDINGS BURNT.—About 9 o'clock last evening, an alarm of fire was sounded, which was found to proceed from the large five story brick building S. E. corner of Wall and Water streets, known as the Phoenix Buildings. It is about 60 feet on Wall street, by say 50 on Water street. When we reached the spot, the 5th story was completely on fire, and the great height of the building rendered it impossible to reach it, except by the hydrant. The firemen, however, by going inside of the building, and upon the neighboring roofs, succeeded in saving the three lower stories, except that the third was somewhat injured. The 4th and 5th, with the roof, were totally destroyed except the walls. Great credit is due to the firemen for arresting the flames where they did.

The 5th story was occupied by Messrs. Bowne & Co. as a book bindery. Here the fire originated.

In the fourth story was the printing office of the Mercantile Advertiser, the materials of which, including a Napier press, were almost wholly destroyed. We are happy to state, however, that the proprietors (Butler & Co.) were insured, and that they have lost none of their books. A part of this story was occupied by Oakley & Co. for the storage of wool.

The third story was also occupied by Oakley & Co., who, we understand, were insured.

The 2nd story, which was not injured except by water, was occupied by George Barrell, Produce Broker; W. Cahoon & Co., cotton brokers; and two offices were unoccupied.

The first story was occupied by Bowne & Co. (the same who owned the bindery) as a stationer's shop, Wm. N. Norris, copper smith; and J. Mathews, hide dealer. Bowne & Co.'s goods were principally removed and thus escaped being drenched with water. They were insured.

The building was owned by Mr. Weyman, senior.

The receipts of the Cooper Benefit at New Orleans amounted to about two thousand five hundred dollars

Awful Calamity.—We copy from the Kittanning (Armstrong County) Gazette and Columbian, the following account of a most distressing occurrence:

On the night of Friday, the 18th instant, the house and barn of Captain John C. Kissinger, of Toby township, in this county, were consumed by fire, and what is most shocking to relate, nine of his children perished in the flames! The parents were absent on a visit to Mrs. Kissinger's father's, a distance of about eight miles. Out of eleven children, two only are left—one an infant which the parents had with them, and the other a daughter eight years of age, who was away from home. The way the fire originated is not known, and it was not discovered till about 9 o'clock the following morning. One horse and a large quantity of grain were consumed; in short, nothing was left in or about the house or barn unconsumed.

A gentleman who had been present at the scene of the calamity, subsequently called upon us, from whom we learned a few additional particulars. The sufferers were from nineteen years of age downwards. So far as could be observed, the bones were in the same relative position in which they slept, which leads to the belief that they were smothered in their beds by the smoke before the flames reached them. One only had gone to a different part of the house. Awful as was the agent of their death, it was probably attended with but little suffering. The unhappy parents were at first (and very probably too) only informed of the destruction of their property. The father returned on Saturday, but the mother remained at her father's until the next morning, still ignorant of the extent of her loss. When she arrived, she surveyed for a moment the smoking ruins, and then asked for her children. Let the reader imagine, if he can, the effect of the shocking disclosure.

It is a remarkable circumstance, and one calculated to heighten, if possible, the distress of these parents, their oldest child was burnt to death some years since.

A horse and a yoke of oxen were burnt. A dog that lay in the barn, was burnt, and his bones were found in the place he was accustomed to lie. Two large hogs were consumed in the pen, although the door was open.

On Sunday, the bones of the children were collected, deposited in a coffin, and buried, in presence of a large concourse of sympathizing friends and neighbors. An impressive discourse was delivered at the grave, by the Rev. Mr. McGarraugh.

The weather for the last two or three days has been as cold and boisterous as we usually experience in the early part of March. Ice was formed on Friday and Saturday nights, and we had snow squalls on these days and yesterday. It is feared that the early vegetation has sustained injury.

Yesterday morning a severe N. W. gale set in, and continued 'till evening. Some damage was done to the shipping in the North river. The ship *Empress*, lying at pier No. 4, broke her fasts and ran into the brig *Marcellus*, both of which were considerably damaged. Other vessels received slight injury. The tin roofs and gutters of the new stores, Nos. 56 and 57 Whitehall, were blown off.

A small wooden tenement, corner of Cherry and Oliver streets, was nearly destroyed by fire yesterday afternoon.—[Mercantile.]

UNITED STATES BANK.—The National Intelligencer of Saturday says,—

"Mr. Duncan, of Illinois, yesterday laid upon the table of the House of Representatives, in order that it might be printed, an amendment which he intends to move to the bill lately reported by the Committee of Ways and Means, for regulating the deposits of the public money in the State Banks, when that bill shall come up. That amendment proposes that the Charter of the present Bank of the United States shall be continued for ten years from the 4th day of March, 1836, provided that the United States shall surrender the whole of its stock, and the present stockholders shall surrender half of the stock in the Bank held by them respectively; the several States to have the right to subscribe, at par value, in proportion to their respective representation in the House of Representatives of the United States, for the twenty-one millions of dollars of stock so to be surrendered, or the citizens thereof, in the event of any State's declining to subscribe and pay in the amount of the quota on or before the 1st day of January, 1836. The amendment embraces several other new features; such as limiting the dividend on stock to seven per cent. per annum; the surplus, after the accumulation of a contingent fund of three millions, to be paid over into the Treasury of the United States; prohibiting the issue of any notes of a denomination less than ten dollars; requiring a bonus of \$200,000 per annum, to be appropriated to internal improvements, &c. &c. This being the first practical proposition in the House of Representatives contemplating, in any form, the extension of the charter of the present Bank of the United States, we have thought this brief note of it might be acceptable to our readers."

The occurrence of a fire in New-Orleans, on the 10th instant, has led to a disclosure of circumstances of a horrifying character. The Courier of that day has the annexed particulars:

"A fire broke out this morning in the kitchen of Madame Lalaurie, corner of Royal and Bayou streets, which was soon wrapt in flames. It was known to some of the neighbors, that the upper part of this building was used as a prison, and that it was then tenanted by several unfortunate slaves loaded with chains. Information of this fact was communicated to Judge Canonge, who instantly waited on Mr. Lalaurie, and asked permission of that gentleman, in a polite manner, to have the slaves removed to a place of safety; when the latter, with much rudeness replied, that 'there were those who would be better employed if they would attend to their own affairs instead of efficiously meddling with the concerns of other people.' The flames gaining rapidly on the building, orders were given to break open the doors, which being promptly obeyed, a most appalling sight was presented, in the shape of several wretched negroes emerging from the fire, their bodies covered with scars and loaded with chains! Amongst them was a female slave, upwards of 60 years of age, who could not move. Some young men carried her to the city guard house, where the others, six in number, were also conducted, to be protected from the cruelty of their owner. We saw one of these miserable beings. The sight was so horrible that we could scarce look upon it. The most savage heart could not have witnessed the spectacle unmoved. He had a large hole in his head, his body from head to foot

was covered with scars and filled with worms!! The sight inspired us with so much horror, that even at the moment of writing this article, we shudder from its effects. Those who have seen the others represent them to be in a similar condition.

We forbear a further description of this revolting spectacle, as it can hardly be agreeable to the feelings of our readers. We hope the Grand Jury will take cognizance of this unparalleled outrage, and bring the perpetrators of it to the punishment they so richly deserve."

The Bee, of the 11th instant, says—"The populace have repaired to the house of this woman, and have demolished and destroyed everything upon which they could lay their hands. At the time of indicting this, the fury of the mob remained still unabated, and threatens the demolition of the entire edifice."

The New Orleans papers of a late subsequent to those which relate the revolting incidents in the above extract, inform us, that a day or two after the fire, and when all the property of the woman fiend whose unheard of cruelties are the subject of this extract, was replaced in her house, a large collection of persons assembled, and gutted it from top to bottom, demolishing every article of furniture, tearing up the floors even, and leaving nothing but the walls standing. Plate, jewelry, glass, piano's, &c., were tossed into the street and trampled under foot. One paper estimates the damage altogether, at \$40,000. Mob law is always bad law—yet in this case, human nature could not but revolt against the atrocities so providentially revealed.

John H. Eaton has been appointed by the President of the United States, with the advice and consent of the Senate, to be Governor of the Territory of Florida, to succeed Governor Duval, whose term of service has expired. The nomination, made to the Senate some days ago, was confirmed yesterday.—[National Intelligencer of Friday.]

UP A TREE.—The following letter from the Post Master of Columbia, S. C. accounts for the failure of two mails.

LOSS OF THE MAIL.

Post Office, Columbia, S. C. 14th April, 1834.

One of the Mails going North, got lost in the river between this and Camden, yesterday morning, and the other is now on a tree in the river and unapproachable. It is not known which Mail got lost; the drivers think it is the Great Mail which lodged on the tree: if they judge from its size, it is probable they are mistaken; for our Mail on Sunday was sent off in a very large Portmanteau. One of the negroes attending at the Ferry got drowned.

The Wateree river is very full, and we have had no Northern Mail since Friday night.

Respectfully,

B. F. RAWLS, Ass't P. M.

P. M. Augusta, Geo.

NEW ORLEANS, APRIL 15.—We understand that on Friday night last, a young man by the name of Kelly, in a fit of passion, cut the throat of his wife with a razor. Immediately after, believing her dead, he cut his own with the same instrument. The wife was not dead on Saturday morning last, and hopes were then entertained of her recovery. We have been unable to obtain any further particulars.

Shipwreck.—British bark Robert Russell, from N. Orleans for Liverpool, was lost on Sand Key, first March. Cargo will be saved—part of it had arrived at Nassau, N. P. on the 15th.

The Girard Bank.—The President of the Girard Bank has made an arrangement with the Secretary of the Treasury, by which that institution terminates its connexion with the Treasury. The deposits will be given up by the first of July.—[Philadelphia Intelligencer.]

The Arkansas Gazette of the 15th instant, furnishes information of the death of Lieut. Wm. Bradford, of the United States Dragoons, by the accidental discharge of one of his pistols whilst placing them in the holsters, preparatory to mounting his horse.—His remains were carried to and interred at Fort Gibson.

The Norfolk Beacon says—"The schooner *Minerva*, of Thomastown, Gray, while lying between the forts, was struck by lightning, on Saturday morning last, at about 5 o'clock. Both masts were struck at the same time, injuring them so much as to render them unfit for use—the lightning descended to the

deck, a part of which was ripped up—the crew escaped uninjured.

Mr. Isaac Edwards, of Penntownship, in the western section of Chester county, informs us that he disposed of 211 lbs. of Butter from four cows, in the space of eleven weeks, in the early part of last season; besides furnishing the ordinary supplies of a family of from four to seven persons.—[Westchester Village Record.]

RECIPE FOR SCARLET FEVER.—A very simple remedy, says a correspondent, for this dreadful disorder, is now using in this city with good effect. It is merely a mixture of Cayenne pepper, salt, and vinegar, used as a gargle.—[Commercial Advertiser.]

NEW YORK MARKET, APRIL 26.

Liquors.—From a cargo of Houghlass Gin there were sold on the wharf 60 pipes in lots, at 105 cents; from store it is sold at 106 cents. Bordeaux Brandy, Crown brand, at 115 cents. St. Croix Rum on the wharf at 93 cents. Whiskey in lbs, at 24 cents, and in drudge casks at 22 cents.

Provisions.—Beef and pork continued to go off freely, and at full prices. Orleans prime pork, re-inspected, at \$9 25. In butter more is doing; dairy we quote at 12 1-2 a 15 cents, which is rather a low price. The stock of cheese is low.

Wool.—Prices tend downward with but few sales.

Corn Exchange.—Flour was heavy throughout. Common brands of Western closed at \$3 37, and fancy at \$3 50; some Utica city was sold at \$9 31; Troy and Albany sold at \$5 on some short account. 1700 bushels good Genesee wheat in store shall be sold at 108 3-4 cents a bushel; a cargo arrived from Virginia, but was not sold. Rye sold freely at 60 cents for northern Northern corn at 60 a 62 cents

BALTIMORE MARKET—April 25.

Coffee.—There has been a fair demand on the part of the trade for Rio Coffee.

Flour—Howard street Flour.—The demand for this description has been quite limited, and transactions from stores are consequently but few.

City Mills Flour.—We have no sales to report.

Susquehanna Flour.—The quality of this description is generally much approved this season, and the article has been in fair demand for export.

Grain—Wheat.—The sales of Wheat since our last weekly report, have been at an advance of several cents per bushel.—Most of the City Mills are yet idle for the want of wheat.

Corn.—There was a full supply at the opening of the market on Monday, and prices receded a little. Sales of yellow were made at 55 cents, and of white at 55a 56 cts

Rye.—We have to note a decline in prices.

Oats.—Sales as in quality at 30 a 33 cts per bushel.

Sorts and Skirts.—Have advanced. We quote the former at 18 cts, and the latter at 32 a 33 cts per bushel.

Price of Produce in Alexandria, D. C. April 25.

Flour, per barrel,	\$4 37 1/2	a	90 00
WHEAT, per bushel	0 80	a	90
CORN, white, wanted,	0 58	a	60
Do yellow, do	0 54	a	56
EVE,	0 60	a	62
OATS, from wagons, bushel,	0 40	a	40
Do from vessels, do	0 35	a	35
CORN MEAL, white, do	0 78	a	80
Do do yellow, do	0 65	a	65
CLOVERSEED,	4 25	a	4 50
FLAXSEED,	1 00	a	100
WHISKEY, per gallon,	0 32	a	32
BACON per cwt.	6 50	a	6 00
BUTTER, fresh, per lb.	0 20	a	20
Do firkin, do	0 12	a	15
LARD, do	6 07	a	6 08
PLANTER PARIS, retail, ton,	5 00	a	5 00

Flour.—Yesterday, the wagon price of Flour was \$4 37 1/2. We were not advised of any sales from stores; several lots of stored Flour were priced at \$4 37 12-12. The market is quiet.

Review of the New Orleans Market, abridged from Levy's Price Current of April 12.

Credit and confidence are much impaired; those who have heretofore been in the habit of making liberal advances, or giving extensive credits, have, from necessity, greatly curtailed them; their sales, and consequently their profits, falling far short of what, under other circumstances, they might reasonably have anticipated. Reflecting men hesitate about entering into contracts, when even the possibility of a doubt exists as to their having the ability to meet their engagements. Of the causes which produced this state of affairs, we have not pace, neither is it our province, to speak; we merely notice the effects.

Cotton.—Arrived since the 4th instant: of Louisiana and Mississippi 8170 bales; Tennessee and North Alabama, 9526; Florida, 256—total, 17052 bales. The sales of the week amount to about 17,000 bales, of which we have been able to learn the particulars of the following, viz.:—276 at 11 1/2, 975 at 10 1/2, 60 at 10 1/2, 243 at 11, 500 at 11 1/2, 108 at 11 1/2, 300 at 11 1/2, 50 at 9 1/2, 94 at 11 1/2, 140 at 11, 120 at 13 1/2, 800 at 11 1/2, 200 at 12 1/2, 610 at 10 1/2, 70 at 10 1/2, 420 at 11 1/2, 70 at 11 1/2, 89 at 11 1/2, 114—all Louisiana and Mississippi, 518 at 10 1/2, 200 at 10, 10 1/2 at 10, 600 at 10, 1000 at 10 1/2, 100 at 11 1/2, 53 at 10 1/2, 400 at 10, 2150 at 11 1/2—all Tennessee and North Alabama; 50 bales Arkansas, at 10 1/2, and 300 Lake at 10 1/2 cents per lb. There has been a good feeling manifested in the market throughout the week, and nearly all descriptions have met with a brisk demand, at an advance of fully 4 cent, and, in some instances, a shade higher, on the Liverpool classification. Mississippi Cotton, it is said, is becoming extremely scarce, and very little for sale now in market.

LIVERPOOL CLASSIFICATION.

Ordinary	24	a	92
Middling	10	a	104
Fair	11	a	12
Good fair	12	a	13
Good and fine	13	a	14

Sugar.—We notice no change in the price of Sugar since our last report.

Molasses.—continues to arrive, but in small quantities, and must soon become scarce; the season, as we before remarked, being nearly at a close; a portion of that now coming in is of inferior quality.

TOBACCO.—There still continues to be a brisk demand for Tobacco.

FLOUR.—Notwithstanding the depressed state of the market for this article, it still continues to arrive freely.

CORN.—The supply of Corn in market in the Ear is abundant, and of Shelled in Sacks fully equal to the demand. Arrived this week, 4015 bbls, 2234 sacks.

LEAD.—The price of Lead remains without change; at present there is nothing doing.

MACKEREL.—Our quotations remain the same as last week.

FURS AND PELTRIES.—There has been a number of heavy arrivals lately, which knocked down the market, and last week they were extremely dull.

FRIGHTS.—The only alterations we have to notice are in the rates to Havre, three vessels having taken up at 138 for Cotton, per lb.; and for Tobacco, per hhd to Cowes, 60 shillings is now taken. We have to remark they are dull.

NOW READY,

AN INTERESTING AND USEFUL MAP.

Upon which is delineated nearly all the Railroads now chartered in the U. States. It is designed to show the present contemplated connexion of the different lines, as well as where others may hereafter be constructed to connect with them. It may be had either in sheets, price \$1 25, or put up in morocco for pocket maps, price \$1 50, or on rollers at \$2 25, in any quantity, by applying to the subscriber.

D. K. MINOR, 35 Wall street.

New-York, April 2, 1833.

RAILROAD TURNOUTS, REVOLVING PLATFORMS AND SIDELINGS.

The subscriber having been for some years engaged in constructing turnouts, and inserting the necessary switches and fixtures appertaining to the same, on the Baltimore and Ohio Railroad,—and as those works on that road will be shortly completed, he is desirous of being employed by any Railroad Company requiring work of the above description.

He will either contract at a fixed price to execute the work, he providing all the necessary materials and fixtures, or otherwise,—or he will engage himself at a stated salary.

In relation to his abilities and general character he begs to refer any Company, disposed to engage him, to the Baltimore and Ohio Railroad Company.

Letters can be addressed to him at the Office of Construction Baltimore and Ohio Railroad, Baltimore.

266 St.

REUBEN ALER.

LOCOMOTIVE ENGINES.

THE AMERICAN STEAM CARRIAGE COMPANY, OF PHILADELPHIA, respectfully inform the public, and especially Railroad and Transportation Companies, that they have become sole proprietors of certain improvements in the construction of Locomotive Engines, and other railway carriages, secured to Col. Stephen H. Long, of the United States Engineers, by letters patent from the United States, and that they are prepared to execute any orders for the construction of Locomotive Engines, Tenders, &c. with which they may be favored, and pledge themselves to a punctual compliance with any engagements they may make in reference to this line of business.

They have already in their possession the requisite apparatus for the construction of three classes of engines, viz. engines weighing four, five, and six tons.

The engines made by them will be warranted to travel at the following rates of speed, viz.: a six ton engine at a speed of 15 miles per hour; a five ton engine at a speed of 18 miles per hour; a four ton engine at a speed of 23 1/2 miles per hour. Their performance in other respects will be warranted to equal that of the best English engines of the same class, with respect not only to their efficiency in the conveyance of burthens, but to their durability, and the cheapness and facility of their repairs.

The engines will be adapted to the use of anthracite coal, pine wood, coke, or any other fuel hitherto used in locomotive engines.

The terms shall be quite as favorable, and even more moderate, than those on which engines of the same class can be procured from abroad.

All orders for engines, &c. and other communications in reference to the subject, will be addressed to the subscriber, in the city of Philadelphia, and shall receive prompt attention.

By order of the Company.

WILLIAM NORRIS, Secretary.

December 2d, 1833.

For further information on this subject see No. 40, page 772 of this Journal.

de

ALBANY SEED-STORE AND HORTICULTURAL REPOSITORY.

The subscriber having resumed the charge of the above establishment, is now enabled to furnish traders and others with FRESH GARDEN SEEDS, upon very favorable terms, and of the growth of 1833, warranted of the best quality.

The greatest care and attention has been bestowed upon the growing and saving of Seeds, and none will be sold at this establishment except those raised expressly for it, and by experience; and those kinds imported which cannot be raised to perfection in this country; these are from the best houses in Europe, and may be relied upon as genuine.

It is earnestly requested whenever there are any failures hereafter, they should be represented to the subscriber; not that it is possible to obviate unfavorable seasons and circumstances but that satisfaction may be rendered and perfection approximated.

Also—French Lucern, White Dutch Clover, White Mulberry Seed, genuine Mangel Wurzel, Yellow Locust, Ruta Baga, and Field Turnip Seeds, well worth the attention of Farmers.

W. THORBURN,

347 N. Market st. (opposite Post Office.)

Catalogues may be had at the Store; if sent by mail, will be forwarded gratis. Orders solicited early, as the better varieties can be done in the execution.

Mr. Thorburn is also Agent for the following publications, &c. &c.

NEW YORK FARMER and American Gardener's Magazine. MECHANICS' MAGAZINE and Register of Inventions & Improvements.

AMERICAN RAILROAD JOURNAL and Advocate of Internal Improvements; and the

NEW YORK AMERICAN, Daily, Tri-Weekly, and Semi-Weekly; either or all of which may be seen and obtained by those who wish them by calling at 347 North Market street, Albany.

TOWNSEND & DURFEE, of Palmyra, Manufacturers of Railroad Rope, having removed their establishment to Hudson, under the name of Durfee, May & Co. offer to supply Ropes of any required length (without splice) for inclined planes of Railroads at the shortest notice, and deliver them in any of the principal cities in the United States. As to the quality of Rope, the public are referred to J. B. Jervis, Eng. M. & H. R. R. Co., Albany; or James Archibald, Engineer Hudson and Delaware Canal and Railroad Company, Carbon Dale, Luzerne county, Pennsylvania.

Hudson, Columbia county, New-York, January 29, 1833.

NOTICE TO MANUFACTURERS.

SIMON FAIRMAN, of the village of Lansingburgh, in the county of Rensselaer, and state of New-York, has invented and put in operation a Machine for making Wrought Nails with square points. This machine will make about sixty 6d nails, and about forty 10d nails in a minute, and in the same proportion larger sizes, even to spikes for shire. The nail is hammered and comes from the machine completely heated to redness, that its capacity for being clenched is good and sure. One horse power is sufficient to drive one machine, and may easily be applied where such power for driving machinery is in operation. Said Fairman will make, vend and warrant machines as above, to any persons who may apply for them as soon as they may be made, and on the most reasonable terms. He also desires to sell one half of his patent right for the use of said machines throughout the United States. Any person desiring further information, or to purchase, will please to call at the machine shop of Mr. John Humphrey, in the village of Lansingburgh.—August 15, 1833.

A29 of R.M.&F

RAILWAY IRON.

Ninety-five tons of 1 inch by $\frac{1}{4}$ inch, 200 do. 1 $\frac{1}{2}$ do. 40 do. 800 do. 800 do. soon expected. **Flat Bars** in lengths of 14 to 15 feet counter sunk holes, ends cut at an angle of 45 degrees with splicing plates, nails to suit.

250 do. of Edge Rails of 36 lbs. per yard, with the requisite chairs, keys and pins.

Wrought Iron Rims of 30, 33, and 36 inches diameter for Wheels of Railway Cars, and of 60 inches diameter for Locomotive wheels.

Axes of 24, 23, 21, 3, 3 $\frac{1}{2}$, 34, and 34 inches diameter for Railway Cars and Locomotives of patent iron.

The above will be sold free of duty, to State Governments and Incorporated Governments, and the Drawback taken in part payment.

A. & G. RALSTON.

9 South Front street, Philadelphia.

Models and samples of all the different kinds of Rails, Chairs, Pina, Wedges, Spikes, and Splicing Plates, in use, both in this country and Great Britain, will be exhibited to those disposed to examine them.

d71mowr

SURVEYORS' INSTRUMENTS.

Compasses of various sizes and of superior quality warranted.

Leveling Instruments, large and small sizes, with high magnifying powers with glasses made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by E. & G. W. BLUNT, 154 Water street, corner of Malden street.

ENGINEERING AND SURVEYING INSTRUMENTS.

The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely new: among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy—also, a Railroad Goniometer, with two Telescopes—and a Levelling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.

W. M. J. YOUNG,

Mathematical Instrument Maker, No. 9 Dock street, Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested.

Baltimore, 1832.

In reply to thy inquiries respecting the Instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad. I cheerfully furnish thee with the following information. The whole number of Levels now in possession of the department of construction of the make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Rail.

This instrument, more recently improved with a reversing telescope, in place of the vane sights, leaves the engineer scarcely any thing to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to lateral angles, of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying of rails—and in fact, when known, I think it will be highly appreciated for common surveying.

Respectfully thy friend,

JAMES P. STABLER, Superintendent of Construction of Baltimore and Ohio Railroad.

Philadelphia, February, 1833.

Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I have it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors.

E. M. GILL, Civil Engineer.

Germantown, February, 1833.

For a year past I have used Instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these Instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engtneers as preferable to any others for that purpose.

HENRY R. CAMPBELL, Eng. Philad.,

and by Germantown and Newcast. Railroad

STEPHENSON,

Builder of a superior style of Passenger Cars for Railroads No. 264 Elizabeth street, near Bleecker street;

New-York.

RAILROAD COMPANIES would do well to examine these Cars; a specimen of which may be seen on that part of the New-York and Harlem Railroad, now in operation.

J. 35 f.

RAILROAD CAR WHEELS, BOXES AND OTHER RAILROAD CASTINGS.

Also, AXLES furnished and fitted to wheels complete at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to. Also, CAR SPRINGS.

Also, Flange Tires turned complete.

J. 36 ROGERS, KETCHUM & GROSVENOR.

NOVELTY WORKS,

Near Dry Dock, New-York.

THOMAS B. STILLMAN, Manufacturer of Steam Engines, Boilers, Railroad and Mill Work, Lathes, Presses, and other Machinery. Also, Dr. Nott's Patent Tubular Boiler, which are warranted, for safety and economy, to be superior to any thing of the kind heretofore used. The fullest assurance is given that work shall be done well, and on reasonable terms. A share of public patronage is respectfully solicited.

m18



INSTRUMENTS.

SURVEYING AND NAUTICAL INSTRUMENT MANUFACTORY.

EWIN & HEARTTE, at the sign of the Quadrant, No. 83 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branches, which they can furnish at the shortest notice, and on fair terms. Instruments repaired with care and promptitude.

For proof of the high estimation on which their Surveying Instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewin & Heartte.—Agreeably to your request made some months since, I now offer you my opinion of the Instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the Instruments, so that I could speak with the greater confidence of their merit, if such should be found to possess.

It is with much pleasure I can now state that notwithstanding the Instruments in the service procured from our northern cities are considered good, I have a decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses, not one has required any repairs within the last twelve months, except from the occasional imperfection of a screw, or from accidents, to which all Instruments are liable.

They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES P. STABLER, Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' Instruments of your Manufacture, particularly Spirit levels, and Surveyor's Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy in adjustments.

These Instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within those few years; and I have no doubt but they will give every satisfaction when used in the field.

WILLIAM HOWARD, U. S. Civil Engineer.

Baltimore, May 1st, 1833.

To Messrs Ewin'nd Heartte—As you have asked me to give my opinion of the merits of those Instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of becoming acquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by myself, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in our line, deserve the unqualified approbation and our warm encouragement. Wishing you all the success which your enterprise so well merits, I remain, yours, &c.

E. H. LATROBE, Civil Engineer in the service of the Baltimore and Ohio Rail- road Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them, upon application, to any person desirous of perusing the same.

m28

An act authorizing a loan for the benefit of the people of this State. Passed April 19, 1834.

The people of the state of New-York, represented in Senate and Assembly, do enact as follows:

§ 1. The commissioners hereinafter named are hereby authorized, if, in their opinion, the public interest shall require it, by an order in writing signed by a majority of them and filed in the office of the comptroller, from time to time, whenever they shall deem it expedient, to direct the comptroller to issue special certificates of stock, in such manner, for such amounts, and under such restrictions as are hereinafter provided, for an amount not exceeding in the whole six millions of dollars; for the redemption of which, and the punctual payment of the interest thereon, as herein provided, to the owners of such stock, the faith and credit of the people of this state are hereby pledged.

§ 2. Upon the filing of every such order, the comptroller shall issue certificates of stock to the amount required thereby, in such sum and to such persons or bodies corporate as the said commissioners, or a majority of them, may direct, for the purpose of being loaned as hereinafter directed.

§ 3. The said commissioners are hereby authorized to loan so much of the said stock when so issued as aforesaid, or of the monies arising from the sale thereof, as in their opinion the public interest may require, to such of the incorporated banking institutions in the city of New York, as they shall deem proper, not exceeding in the whole four millions of dollars, and in such sums to each as they shall deem proper, not exceeding in amount to any one institution one half the capital stock of such institution, at a rate of interest not less than five per cent, payable quarterly, upon its par value; and they said commissioners before they shall make any such loan, shall examine particularly into the affairs of such bank. And the said commissioners may also at their discretion, take such security for the punctual payment of said interest, and the ultimate payment of said principal, as they shall deem proper and necessary to insure such payments at such times as may be agreed upon, not extending beyond the time when the principal of said stock shall be reimbursable; but no part of the loan made to any banking institution, shall be repaid to the State, before the expiration of the period at which the stock shall be redeemable, unless such repayment shall be made in the stock created under this act.

§ 4. The said commissioners shall prescribe the form in which the said certificates of stock shall be issued; and the said stock shall be transferable at the pleasure of the owner, in such manner as the said commissioners shall direct.

§ 5. The said stock shall bear an interest of five per centum per annum, payable quarterly at the Manhattan Bank in the city of New York, and shall be reimbursable at such time or times within twelve years from the passage of this act, as the said commissioners shall designate.

§ 6. The said stock shall be converted into money, in such manner, and under such regulations, as the commissioners hereinafter mentioned shall direct; but the amount of any premium received on such stock upon converting the same as aforesaid, shall be paid into the treasury of this State for the benefit of the general fund.

§ 7. The said commissioners hereinafter named, are hereby authorized to convert into money, by disposing of the same by auction or otherwise, in their discretion, a further amount of stock authorized by the first and second sections of this act, not exceeding two millions of dollars, and to pay the said money into the treasury of this State, the premium thereon to belong to the general fund, and the capital to be loaned to the citizens of the different counties of this State, except the counties in the first senatorial district, in the manner and subject to the provisions hereinafter mentioned, to wit:

1. The amount to be loaned in each county shall be ascertained by an apportionment of the whole amount of two millions of dollars, among such counties according to the number of inhabitants in each, as ascertained by the census taken in the year one thousand eight hundred and thirty.

2. No loan shall be made to the citizens of any county until an application therefor shall have been made to said commissioners by the board of supervisors of such county.

3. The moneys to be loaned in each county shall be loaned by the "commissioners for loaning money" in such county, under the act of April 11, 1808; and where there shall be no such commissioners in any county, they may be appointed in the same manner, and shall hold their offices for the same term, and upon the same tenure as if appointed under said

act, and pursuant to the provisions of the revised statutes.

4. The commissioners of each county, before entering upon the duties of their office, under this act, shall take the oath of office as prescribed by the constitution of this State, and file in the office of the Comptroller a like bond, as is provided for by the fourth section of the act last aforesaid, in addition to the bond required by that section in cases where that may now be required.

5. The principal moneys to be loaned under this act shall be payable at such time or times, within twelve years from the passage of this act, as the said commissioners mentioned in the eleventh section of this act, shall designate, and the interest thereon at the rate of six per centum per annum, shall be payable on the first Tuesday of May in each year: and the said commissioners for loaning money may retain out of the said interest, one-half of one per cent, for their compensation.

6. The said commissioners for loaning money shall keep separate books and accounts relating to the loan authorized by this act, distinct from their other loan office books and accounts, and in addition to the evidences of title required by said last mentioned act, it shall be the duty of the said commissioners to require of the borrower certificates from the proper officers, showing that there is no encumbrance upon the property proposed to be mortgaged on record in their offices.

7. Whenever any principal moneys loaned by said commissioners shall be paid in to them, it shall not be re-loaned, but shall be paid into the treasury of this State.

§ 8. The moneys to be realized from the stock authorized to be issued under the preceding section of this act, shall belong to the general fund of this State, and the interest upon said stock shall be paid out of the said general fund.

§ 9. Except as herein otherwise provided, all the provisions of the act aforesaid, entitled "An act authorizing a loan of monies to the people of this State," passed April 11, 1808; and also of the act to amend the same, passed March 29, 1809; and also the act passed April 21, 1825, entitled "An act to provide for the conveyance of land sold by a commissioner of loans under the act entitled "An act authorizing a loan of monies to the citizens of this State," passed April 11, 1808; and also of the act, entitled "An act relative to the loans of 1786, 1792, and 1808, passed April 13, 1832," shall apply to the loans to be made under the seventh section of this act, in the same manner as if the moneys loaned constituted a part of the said loan of one thousand eight hundred and eight.

§ 10. Whenever upon the foreclosure and sale of any premises mortgaged to secure any loan made under the seventh section of this act, the said mortgaged premises shall not bring the amount due and to become due upon said mortgage with the costs of foreclosure and sale, the deficiency shall be reported by the commissioners making such sale, to the board of supervisors of the county, who shall at their next annual meeting, cause such deficiency and the interest thereon, to be raised as part of the contingent charges of such county, and paid over to the county treasurer whose duty it shall be to pay the same over to the said commissioners for loaning money.

§ 11. The commissioners of the canal fund, and the bank commissioner appointed by the Governor and Senate, shall be commissioners to carry this act into effect; but it shall not be lawful for them to require any issue of stock, as herein before provided, after the first day of February next.

§ 12. If the supervisors of any county in this State shall refuse or neglect, for three months after the passage of this act, to take said loan on the terms herein mentioned, the said commissioners may, in their discretion, loan the money appropriated to said county to any incorporated bank or banks in said county; and if there is no incorporated bank in said county, then the said commissioners may loan the amount apportioned to said county to any incorporated bank or banks in this State. Said loans mentioned in this section to be made upon the like terms and security as the loans mentioned in the third section.

§ 13. The clerk of the board of supervisors of the several counties in this State is hereby authorized to call a special meeting of the board of supervisors in their respective counties, on the application in writing of any three of the supervisors, giving at least six days notice to each supervisor of the time and place of meeting; and the said supervisors or a majority of them, when so met, shall have power to adjourn from time to time for the purpose of carrying into effect this act.

§ 14. This act shall take effect immediately on the passage thereof.

State of New-York, Secretary's Office.—This bill having been approved and signed by the Governor of the State, on the 19th day of April, 1834, I do hereby certify that the same became law on that day.

JOHN A. DIX, Secretary.

NEW ORLEANS MARKET—April 15.

COTTON.—The following were the sales we heard of yesterday, viz.:—600 bales Mississippi at 11½; 300 bales Alabama and Mississippi at 10½; 1300 bales Mississippi and Louisiana at 13½; 40 bales Louisiana and Mississippi at 11½; 17 bales do at 12; and 17 do at 14 cts.

Flour, \$3 12½ a 325; Pork, mess, \$11; prime, \$9; bulk pork, 2½ a 3c; Bacon 4½ and 5½; Lard, 5 5/8 a 6½; Whiskey, 20 a 2½; Molasses, 21 a 22; Sugar, 5 a 6½; Corn, 87½ per bushel. [Bulletin.]

VOL. III. OF THE RAILROAD JOURNAL AND ADVOCATE OF INTERNAL IMPROVEMENTS is published once a week in quarto form, with 16 pages to each number, at \$3; or in semi-monthly form, of 32 pages, stitched in a cover of colored paper, at \$4 per annum, in advance. The first and second volumes of the Journal may be had in two parts to the year, either stitched in covers or bound in boards, at the subscription price, with price of binding, in one part, 50 cents, in two parts \$1 per volume. Those in covers may be sent by mail to any part of the country, the same as a magazine. Published at No. 35 Wall st., New-York, by D. K. MINOR, Editor and Proprietor.

THE MECHANICS' MAGAZINE AND REGISTER OF INVENTIONS AND IMPROVEMENTS is now just commencing its second year. It will be continued in a manner altogether superior to that of the first year. It has drawn forth many valuable correspondents, in different parts of the country, with the assistance of whom, and those who may hereafter contribute to its columns, together with the ability of Mr. JOHN KNIGHT, formerly, and for several years, proprietor and publisher of the LONDON MECHANICS' MAGAZINE, who is engaged as Editor, the proprietor has no hesitation in saying that it will be found worthy of an extended circulation and a liberal support. The first year, or two first volumes, having been stereotyped, may now be had either in numbers, or bound in boards—either at wholesale or retail. Price \$1 50 per vol. in numbers, or \$1 75 in boards, or \$3 per annum. A liberal discount made to the trade. Published by the proprietor, D. K. MINOR, at No. 35 Wall st. N. Y.

THE NEW-YORK FARMER AND AMERICAN GARDENER'S MAGAZINE, has commenced the second volume of a new series. It is published once a month, in quarto form of 32 pages to each monthly number, at \$3 per annum in advance. The last volume may be had either stitched in a cover, so as to be sent by mail, or in boards. Price, stitched, \$3 25; in boards, \$3 50. Each subscriber who pays in advance, or previous to the first of April, free of postage or commission, will be entitled to eight additional pages to each monthly number, or 96 extra pages to the volume. Published at No. 35 Wall street, N. Y. D. K. MINOR, Proprietor.

Jan. 22, 1834.

A QUARTERLY JOURNAL OF AGRICULTURE AND MECHANICS will hereafter be published at the same office. Each quarterly number will contain about 300 large octavo pages, embracing the most choice articles from the best agricultural and mechanical publications both in America and Europe. It will form 2 volumes to the year, of about 640 pages each, and will be put up like other quarterly publications, so as to be sent by mail Price, \$5 per annum, in advance.

N. B. A small edition only will be published.

Also, the PLOUGH-BOY, a cheap agricultural publication, of eight quarto pages, is issued once a week, at \$1 50 per annum, in advance. It contains much interesting reading upon agriculture, &c.

Also, the NEW-YORK AMERICAN, daily, tri-weekly, and semi-weekly.

All Letters and Communications for the above publications, may be addressed, free of postage, to

D. K. MINOR.

PATENT RAILROAD, SHIP AND BOAT SPIKES.

At the Troy Iron and Nail Factory keep constantly for sale a very extensive assortment of wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years successful operation and now almost universal use in the United States (as well as England, where the subscriber obtained a Patent,) are found superior to any ever offered in market.

Railroad Companies may be supplied with Spikes having countersink heads suitable to the holes in iron rails, to any amount and on short notice. Almost all the Railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. Y., will be punctually attended to.

HENRY BURDEN, Agent.

Troy, N. Y. July, 1831.

Spikes are kept for sale, at factory prices, by I. & J. Townsend, Albany, and the principal iron Merchants in Albany and Troy; J. I. Brower, 223 Water street, New-York; A. M. Jones, Philadelphia; T. Janvier, Baltimore; Degrand & Smith, Boston.

P. S.—Railroad Companies would do well to forward their orders as early as practical, as the subscriber is desirous of extending the manufacturing so as to keep pace with the daily increasing demand for his Spikes.

242 Wall

H. BURDEN,